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(54) Survey tool for email

(57) The present invention provides a survey tool for use with an electronic mail (email) system implemented in a computer network having a plurality of nodes interconnecting a corresponding plurality of computers. In the preferred embodiment, the survey tool includes three modules; a builder module for composing a survey, an answer module for responding to the survey, and a collector module for generating survey results. The builder module provides a graphical interface for generating a graphical survey. The survey is then encoded in a survey description language (SDL). Next, the builder module attaches the SDL encoded survey to a survey email together with the email headers, and transmits the survey email to one or more targeted users via the computer network. The targeted user retrieves the survey email and attempts to invoke the answer module. If a copy of the answer module cannot be located at the receiving computer, a copy of the answer module can be transferred from a remote location via the computer network. Upon execution of the answer module, graphical prompts are generated for the targeted user. In turn, the targeted user provides appropriate survey response which are recorded by the answer module. The survey response is then encoded into a survey result language (SRL), attached to an answer email and transmitted to a survey cache of the computer network. Finally, the collector module accesses the survey cache and retrieves the SRL survey response(s). The SRL encoded survey responses are decoded, interpreted and tabulated. Appropriate graphical displays and/or reports can then be generated.

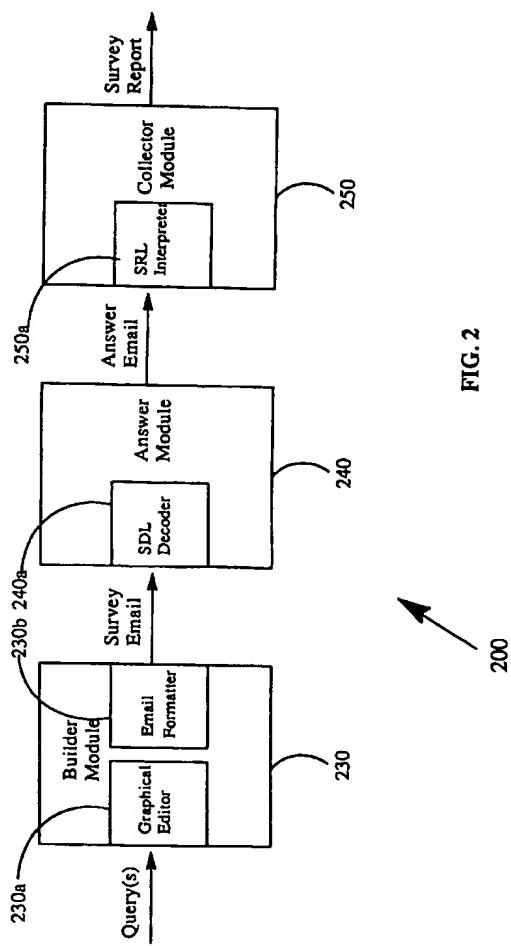


FIG. 2

Description

This invention relates to surveys and in particular to a survey tool useful in association with a computer network.

5 A survey is a very efficient way to solicit similar information from a large number of users. Typically, conducting a survey involves several processes, namely, creating a list of queries, disseminating the queries, recording responses corresponding to the queries, collecting and tabulating the responses to generate meaningful reports.

10 With the proliferation of personal computers in an increasingly paperless environment, the use of electronic mail (email) in a computer network as a primary medium for communication is fast becoming the norm. Hence, in such an automated environment, an originator of a survey, i.e., the enquirer, can compose a survey in the form of an email message which includes a list of textual questions, each requiring a textual or numeric response. Multiple copies of the email message is then disseminated via the computer network to a targeted group of users.

15 Upon receiving the email message with the list of queries, a targeted user will either generate a reply by creating a new email message with the appropriate responses, or by editing the original email message and appending appropriate responses to each query. The targeted user then transmits the email message containing his/her response back to the enquirer.

20 Conventionally, the enquirer receives the emails containing the responses via his/her email mailbox, retrieves each email message, reads each message in turn, and manually extracts the desired raw data. The extracted raw data is then tabulated manually or with the aid of a commercial spreadsheet program by converting the raw data into a format compatible with the spreadsheet program.

25 The above described conventional method of conducting the survey has several disadvantages. These disadvantages originate from problems related to the above identified processes, i.e., survey creation, answering and collection processes. The result is an excessive amount of human interaction required at the various processes despite of the use of a paperless electronic medium.

30 One problem is related to the survey creation process and the wide variety of applications where surveys are used. Ideally, for ease of implementation, a survey tool should adopt a standardized format while accommodating a wide variety of applications. In practice, multiple customized survey formats may be required for different surveys. Further, to enhance adaptability, a survey must also be able to generate both textual and graphical prompts and be able to receive both graphical and textual responses. Because, conventional email formats are essentially textual in nature, these emails are not well suited for generating graphical prompts and receiving graphical input.

35 Another problem is related to the survey answering process and the amount of time required by the targeted users on the computer network to respond to the survey. Since each targeted user has to expend a substantial amount of time manually manipulating textual files and formulating answers for a responding email, the total amount of time expended by a typical large group of targeted user is significant.

40 Yet another problem is related to collection process, i.e., the difficulty and time required for retrieving, tabulating and compiling the results of the survey into a meaning report. Incompatibility between computer networking software and spreadsheet software is the primary source of the problem. In order to be compatible with the networking software, the survey emails have to be in a specific email format which have been optimized for transmission efficiencies, typically a textual format such as ASCII with special control characters. However, email formats are generally incompatible with the formats of spreadsheet programs. This is because spreadsheet programs which have distinct input and output file formats optimized for storage and retrieval efficiencies. As a result, the typical enquirer has to read every email to extract the relevant information before manually inputting the responses into the incompatible spreadsheet program to compile the results into a report. This is a monumental task when the targeted user group is large.

45 Hence, there is a need for a flexible, user-friendly and efficient survey tool that can accommodate a wide range of user applications with a minimal amount of human interaction. In addition, the survey tool should also be easily adapted for different hardware and computer networking platforms.

50 The present invention is a survey tool for use with an electronic mail (email) system implemented in a computer network having a plurality of nodes interconnecting a corresponding plurality of computers. In the preferred embodiment, the survey tool includes three modules; a builder module for composing a survey, an answer module for responding to the survey, and a collector module for tabulating the results of the survey into a meaningful report.

55 The builder module provides a user-friendly builder graphical interface for generating at least one query of a graphical survey. This is accomplished by providing graphical prompts to an enquirer. The process of generating query(s) is repeated by the enquirer until the survey is complete. The survey is then encoded in a survey description language (SDL). The SDL includes ASCII characters. Next, the builder module attaches the SDL encoded survey to a survey email together with the email headers, and transmits the survey email to at least one targeted user at a receiving computer coupled to the computer network. Duplicate survey emails can be distributed to multiple targeted users.

The targeted user receives the survey email in his/her email mailbox at the receiving computer. The targeted user then browses through the mailbox, retrieves the survey email and attempts to invoke the answer module for decoding the attached SDL survey. If a copy of the answer module cannot be located at the receiving computer, a Bourne shell

script attached to the survey email provides the ability to locate and transfer a copy of the answer module from a remote location via the computer network.

Upon execution of the answer module, graphical prompts are generated for the queries of the survey. In turn, the targeted user provides appropriate responses which are recorded by the answer module. The survey response is then encoded into a survey result language (SRL). The SRL encoded survey response is attached to an answer email with the appropriate email headers and transmitted to a predetermined location at the computer network, for example a survey cache coupled to a node of the computer network.

When the targeted users have had an opportunity to respond by sending their respective answer emails, the collector module is used to access the survey cache and retrieve the SRL survey response(s). The SRL encoded survey responses are then decoded, interpreted and tabulated. Finally, appropriate graphical displays and/or reports are generated.

By way of example only, a specific embodiment of the present invention will now be described, with reference to the accompanying drawings, in which:

Figure 1A illustrates a computer network having a plurality of nodes interconnecting a plurality of computers.

Figures 1B and 1C are block diagrams of two of the plurality of computers of Figure 1A.

Figure 2 is a block diagram showing three main modules of a survey tool in accordance with the invention.

Figure 3 is a block diagram illustrating the format of an electronic mail (email) with an email attachment.

Figure 4 is a block diagram illustrating the format of a survey email attachment of the present invention.

Figure 5 is a block diagram illustrating the format of an answer email attachment of the present invention.

Figures 6A-6B are flowcharts illustrating a builder module of the survey tool of the present invention.

Figures 7A-7D are flowcharts illustrating an answer module of the survey tool of the present invention.

Figures 8A-8B are flowcharts illustrating a collector module of the survey tool of the present invention.

DEFINITIONS

Bourne shell script: A collection of textual commands which are interpreted by a UNIX Bourne shell interpreter which executes the commands.

SDL : Survey description language.

SRL : Survey result language.

Bourne shell archive : A segment of a Bourne shell script for encapsulating a survey description language (SDL) encoded survey.

Instantiation : A run time loading of data which defines the behavior of an executable program.

Encapsulation: A segment within an email attachment.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1A shows a computer network 100 having a plurality of nodes 101, 102, ... 109, for interconnecting a plurality of computers 111, 112, ... 119. As known to one skilled in the art, a computer network can interconnect a wide variety of computers at various locations and can include sub-networks such as local area networks (LANs), and wide area networks (WANs) coupled via dedicated lines, switched lines or wireless connections. An electronic mail (email) system is implemented over computer network 100 enabling users on computers 111, 112, ... 119 to communicate with each other via email.

Figures 1B and 1C are block diagrams of two of computers 111, 112, ... 119, e.g., computers 111, 112 respectively. Computer 111 includes a central processing unit 111a, a memory 111b coupled to CPU 111a, a bus controller 111c coupled to CPU 111a, a system bus 111d coupled to bus controller 111c, a monitor/keyboard/mouse 111e coupled to system bus 111d, and an optional mass stage device 111f coupled to system bus 111d. Similarly, computer 112 includes a central processing unit 112a, a memory 112b coupled to CPU 112a, a bus controller 112c coupled to CPU 112a, a system bus 112d coupled to bus controller 112c, a monitor/keyboard/mouse 112e coupled to system bus 112d, and an optional mass stage device 112f coupled to system bus 112d.

Figure 2 is a block diagram illustrating three main processes of a survey tool 200 implemented over computer network 100 in accordance with one embodiment of the invention. Survey tool 200 includes three main modules, a builder module 230, an answer module 240 and a collector module 250. An originator of a survey, i.e., the enquirer, executes builder module 230 which prompts the enquirer to begin creating a list of queries. Builder module 230 generates a survey email, i.e., a survey attached to an email, to at least one targeted user on computers 111, 112, ... 119. When the survey email arrives at a receiving computer, the targeted user retrieves and executes answer module 240 to respond by generating an answer email, i.e., an answer attached to an email, to the enquirer or to a predetermined return node on computer network 100. Eventually, the responding answer email(s) are decoded and the results tabulated in a meaningful report by executing collector module 250.

Figure 3 is a block diagram showing the format of an email 300 suitable for implementing both the survey email and

the answer email in accordance with the invention. Email 300 includes an email header 310, an email textual message box 320, an attachment header 330 and an attachment body 340. Email header 310 includes sender and addressee information. Email textual message box 320 allows a sender to include a textual message. Attachment header 330 provides information about the location and size of attachment body 340. Attachment body 340 provides a vehicle for emailing the surveys and survey responses. Figures 4 and 5 are block diagrams illustrating the respective formats of a survey email attachment 400 and an answer email attachment 500 corresponding to the survey email and the answer email of the present invention. Both attachments 400, 500 are described in greater detail below.

Figures 6A, 6B, 7A-7D, 8A and 8B are flowcharts illustrating one embodiment of survey tool 200 in greater detail. Figures 6A and 6B show process steps of builder module 230, Figures 7A through 7D show process steps of answer module 240, and Figures 8A and 8B show process steps of collector module 250. These figures illustrate one embodiment of survey tool 200 and are not intended to limit the scope of the invention. Appendix A is a User's Guide for survey tool 200.

Referring to Figure 6A, first the enquirer retrieves and executes builder module 230, which includes a graphical editor 230a and an email formatter 230b, on an enquiring computer, e.g., computer 111 (step 605). Graphical editor 230a provides a user-friendly bit-mapped graphical interface on monitor 111e for generating graphical prompts such as icons and "radio buttons", and for receiving parameters and/or input data from the enquirer in response to the prompts. The enquirer interacts with the builder graphical interface to compose at least one query for the survey (step 610). The builder graphical interface records both graphical and textual input such as keyboard strokes in response to the graphical prompts. In some embodiments of builder module 230, when the interactive process of composing the survey is completed, the enquirer can test the survey by routing the survey back to himself/herself. Modifications and corrections to the survey if any can be performed at this time.

When the enquirer is satisfied with the "look and feel" of the survey, graphical editor 230a is terminated and email formatter 230b is used to create the survey email. Next, survey email attachment 400, as illustrated by Figure 4, is generated for the survey email (step 620). Finally, builder module 230 transmits the survey email with the survey email attachment 400 to targeted user(s) on an email distribution list at one or more receiving computers of said plurality of computers 111, 112, ... 119 (step 630).

Referring now to Figure 6B, step 620 for building survey email attachment 400 is described in greater detail. Survey email attachment 400 is essentially a Bourne shell script which includes Bourne shell commands 410, 430 to be interpreted by the operating system of the receiving computer. First, the survey created above by the enquirer is encoded in a survey description language (SDL) format (step 621). In one implementation, the SDL includes ASCII characters. A Bourne shell archive 420 is then created for encapsulating the SDL encoded survey (step 622). In addition, code for Bourne shell commands 410 capable of locating and remote transferring an executable copy of answer module 230 are generated in case a conditional remote file transfer of answer module 230 is requested by the receiving computer (steps 623 and 624).

Next, builder module 230 acquires any optional textual message generated by the enquirer, such as a cover memo summarizing the nature and purpose of the survey, and inserts the message into email textual message box 320 (step 625). Builder module 230 then generates additional code for Bourne shell commands 410, 430, enabling answer module 230 to instantiate the SDL encoded survey on the receiving computer(s) (step 626). Builder module 230 is also responsible for generating appropriate email headers 310, 330 for textual message box 320 and attachment body 340, respectively (step 627). Preferable, Bourne shell commands 430 also includes garbage collection code for ensuring that any temporary files that are created by answer module 230 are deleted after use (step 628). Finally, the above described email components are combined to form the survey email (step 629).

The enquirer is now ready to distribute the survey email using a email distribution list specified by the enquirer. A return email address for storing answer emails is also specified. This return email address is generally the enquirer's email address but can be a different email address. Builder module 230 then transmits the survey email with the attached SDL encoded survey to at least one targeted user. Appendix B is an example of an SDL encoded survey.

Figure 7A is a flowchart illustrating the process steps at the receiving computer, e.g., computer 112, for processing the incoming survey email and generating a responding answer email. In this embodiment, a targeted user examines his/her outstanding email(s) in his/her electronic mailbox using an email program which automatically fetches outstanding emails in the targeted user's mailbox (step 705). Next, the targeted user selects the survey email for viewing via monitor 112e of receiving computer 112, with the email attachment of the survey email suitably displayed, e.g., as a survey icon (step 710). The survey email attachment can now be selected for execution, e.g., by pointing and double clicking on the survey icon with mouse 112e (step 720). The mouse clicking executes Bourne shell commands 410 of the survey email attachment which searches for and executes answer module 240 (step 730).

Referring now to Figure 7B, a detailed flow chart illustrating step 730, first the SDL encoded survey is extracted from Bourne shell archive 420 and saved as a temporary file at receiving computer 112 (step 732). Next, a search is conducted at receiving computer 112 for a copy of answer module 240 (step 733).

In accordance with one aspect of the invention, no prior installation of answer module 240 at receiving computer

112 is necessary for a targeted user to be able to receive the survey email and respond by sending the answer email. This freedom from pre-installation of answer module 240 advantageously increases the types of computers coupled to network 100 that can receive and participate in the survey, e.g., diskless and/or driveless computers. If a copy of answer module 240 is found on the receiving computer, answer module 240 is ready for execution using the SDL temporary file as input data (step 738).

5 Conversely, if there are no executable copy of answer module 240 is found on receiving computer 112, then a scan of the receiving computer's memory 112b is initiated to ensure that there is sufficient free space to store a temporary copy of answer module 240 (step 734). Using network address and file name information included by the enquirer in Bourne shell commands 410, a file transfer protocol (FTP) connection over computer network 100 is established between 10 receiving computer 112 and a remote computer, e.g., computer 115, identified as having an copy of answer module 240 (step 735). The copy of answer module 240 is then transferred via the FTP connection into receiving computer 112 (step 736). Receiving computer 112 can now execute answer module 240 to complete processing of the SDL encoded survey stored in the temporary file (step 738).

15 Figures 7C and 7D show in greater detail the instantiation of the SDL encoded survey on receiving computer 112 by answer module 240. An SDL decoder 240a of answer module 240 decodes the SDL encoded survey into a graphical form (step 738a). Answer module 240 then creates an answer graphical interface based on the graphical form of the 20 SDL encoded survey (step 738b). The answer graphical interface is displayed on monitor 112e of receiving computer 112 (step 738c).

25 The targeted user interacts with the answer graphical interface, responding to prompt(s) with appropriate response (step 738d). Graphical and/or textual prompts are generated for each query to prompt the targeted user, e.g., radio buttons for multiple choices, yes/no, a scaled rating, a numerical value and/or textual boxes with fill-in-the-blank or essay answer prompts (See box 430). The user then "clicks" and/or types in the appropriate response using keyboard/mouse 112e. Answer module 240 also provides editing functions such as the ability to respond to the queries in a non-sequential order. Appendix C is an example of graphical screens generated by answer module 240 in response to the GDL encoded survey email.

When the targeted user's survey response is completed, the targeted user initiates a return of the survey response via the answer email, e.g., by selecting a return icon, i.e., by clicking the mouse (step 738e). Referring to Figure 7D, answer module 240 encodes the survey response in a survey result language (SRL) (step 738e1). In one implementation, the SRL includes ASCII characters. The responding answer email is created by generating an email header and an 30 attachment header, and by inserting the SRL encoded survey response into answer email attachment 500 (step 738e2). Finally, the answer email with the attached survey response is transmitted to a survey cache at a predetermined node of computer network 100 that is designated by the enquirer (step 738e3).

Figure 8A is a flowchart illustrating the process steps used by collector module 250 of the present invention. First, a survey reviewer, e.g., the enquirer, executes collector module 250 at a reviewing computer (step 805). Note that the 35 reviewing and the enquiring computers can be the same or separate computers. In this example, the reviewing computer is also computer 111. The reviewer specifies a pathname to the survey cache which has the answer emails from the responding targeted users (step 810). Next, the survey and the answer emails are retrieved by collector module 250 (step 820). Upon selecting a "load survey" command, a pop up menu with several loading options is generated by a 40 collector graphical interface of collector module 260 on monitor 111e. The reviewer selects survey response processing options/parameters provided by collector module 250, such as selection frequency and percentages across choice items, by rank and, text (essay) inputs (step 830). Collector module 250 also checks for mandatory inputs, e.g., parameter selections, needed to generate a survey report and/or checks the processing options/parameters selected by the reviewer (step 840). Collector module 250 then scans the retrieved answer emails, extracts and interprets the SRL encoded 45 survey responses from the answer emails (step 850). Finally, a survey report can be generated and displayed on monitor 111e of the reviewing computer if a display or view option had been selected (step 860). Alternatively or additionally, collector module 250 can be directed to print the survey report by selecting a print option.

Figure 8B illustrates in greater detail step 850 used by an SRL interpreter 250a of collector module 250 for interpreting the extracted SRL encoded survey responses. Interpreter 250a checks to see if there are any unprocessed survey queries (step 851). Next, for each survey query, a pattern generator of interpreter 250a generates scan pattern tokens 50 for conducting a search of the extracted survey responses (step 852). Using a comparator of interpreter 250a, each survey response is searched for matching scan pattern tokens (step 853). The matched pattern tokens are tabulated and the textual data extracted by a sorter of interpreter 250a to provide the survey report (step 854). Finally, the survey report are stored in a form suitable for graphical display and/or printout (step 855).

Other modifications are possible without departing from the scope of the invention. For example, computer network 55 100 can either be hardwired, optical, wireless, or combinations thereof. Other applications for which the remote transfer of an executable program with an interpretive command script can be adapted for use include various email reader programs which support email attachments. Hence the scope of the invention should be determined by the following claims.

APPENDIX A

SurveyTool 1.0 User's Guide

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Inquiries concerning such trademarks should be made directly to those companies.

The Survey Tool software product was created, designed, and implemented by Jim
Sanders.

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Preface

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Overview

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This guide introduces you to SurveyTool—a new application consisting of three graphical tools that enable you to easily:

- Build graphical surveys and questionnaires for distribution via email
- Answer and return surveys
- Collect and analyze survey responses

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All interaction with SurveyTool is done through its Graphical User Interface (GUI). This means that you will enter, view, and edit information in well-organized, easy-to-use windows.

20

SurveyTool functions across the Sun network, so any user with a valid Sun email address and a workstation running Open Windows 3.0 may take advantage of this versatile, new productivity tool.

About this Guide...

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This guide is organized functionally—that is, sections are dedicated to the SurveyTool task you wish to perform. The following list outlines the chapters/sections you should read, based on how you wish to use SurveyTool.

Chapter 1, "SurveyTool Overview," introduces you to the functions, features, process flow, system requirements, and limitations of SurveyTool.

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5 Chapter 2, "The Impatient User's Quick Start," provides general instructions for building a survey, answering a survey, and collecting responses to a survey you have created.

10 Note - Even if you dislike reading manuals, you should at least skim Chapter 2 and then refer to the remaining chapters whenever you have questions about using SurveyTool.

15 Chapter 3, "Building a Survey," explains how to create, view, save, and distribute a survey.

Chapter 4, "Answering a Survey," explains how to respond to a survey sent to you via email.

Chapter 5, "Collecting Survey Responses," explains how to collect and print responses to surveys you have created and distributed.

20 *What You Should Already Know...*

This guide presumes that you:

- Are familiar with the OpenWindows environment
- Know how to use a mouse, choose from menus, highlight records, and enter commands in a shell-tool command line

25 *Related Documentation*

30 If you are unclear about any of the items listed in the previous "What You Should Already Know..." section, please refer to the Sun Desktop documentation.

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SurveyTool Overview



1.1 SurveyTool Overview

10 The SurveyTool application consists of three distinct tools, as defined in Table 1-1.

Table 1-1 SurveyTool Tools and Their Functions

| Tool | Functional Description |
|------------------|--|
| Builder Module | A graphical tool that enables users to create a survey (complete with questions and possible answers), distribute the survey to specific email addresses/aliases, and specify the return email address for survey responses. |
| Answer Module | A graphical tool that enables users to respond to survey questions sent to them via email. |
| Collector Module | A graphical tool that allows the creator to collect survey results and compile basic statistics. |

25 *1.2 General Process Flow*

30 You first use the Builder Module to create or "build" a survey. Once you've inserted your list of questions and possible responses, you determine who the respondents should be, specify the return email address for answered surveys, and then send your survey to the people on your distribution list. (Chapter 3, "Building a Survey," explains this process.)

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Users on the distribution list are notified via email that a survey is waiting for a response. Users may view the survey, answer the questions, and return the survey. The survey is automatically routed to the return email address specified by the survey builder. (Chapter 4, "Answering a Survey," explains this process.)

10

As survey responses arrive, you will use the Collector Module to collect and provide summary reports of the various responses, along with basic statistics. (Chapter 5, "Collecting Survey Responses," explains this process.)

15

Survey Builders

Survey builders—users who create and distribute a survey—can create the following distinct types of questions within a survey:

20

1. Multiple Choice (featuring three different types of multiple choice options: one answer, more than one answer, and ranked choices)
2. Essay
3. Rating Scale
4. Fill In The Blank (featuring up to ten labeled text fields)

25

Survey Respondents

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The Answer Module allows *respondents*—users who receive a survey—to do the following:

35

- Answer some or all of the survey questions
- Access "next" and "previous" questions sequentially, or load in any survey question randomly
- Return the survey automatically by simply clicking the Return Survey button

40

Survey Collectors

The creator of the survey uses the Collector Module to retrieve survey responses received via email. The Collector Module processes returned survey email, produces summary reports, and compiles basic statistics.

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1.3 Limitations

While SurveyTool is a more-than-adequate application for generating surveys, eliciting responses, compiling results, tracking basic statistics, and producing summary reports, it is not designed to perform complex statistical analysis.

10

Future releases of SurveyTool may support Lotus, DBMS, SAS, or other file import/export capability to support more complex analysis and data manipulation.

15

1.4 Where To Go From Here...

If you're in a hurry and just want to know the basics, Chapter 2, "The Impatient User's Quick Start," provides general procedures for performing each SurveyTool function. It also provides references to the sections which detail each module's functions in more detail.

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The Impatient User's Quick Start



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2.1 Overview

This chapter is intended for those of you who dislike reading manuals, but
who want to immediately begin using SurveyTool. It provides general
procedures for:

- Building a survey
- Answering a survey
- Collecting and processing survey responses

15

This chapter does not encourage you to avoid reading the remaining chapters
of this guide, but provides enough information to get "impatient" users up-
and-running immediately.

20

2.2 Building a Survey

▼ To Build a Survey

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1. Enter the following command at a UNIX shell command line, and press
Return.
`stbuild &`

The SurveyTool Builder Module window will open. Check to make sure you
are in the Build Survey mode.

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- 5 2. In the Question Text area, enter the text of your question.
- 10 3. Point to the type of question you are creating, and click SELECT.
- 15 4. Complete the Properties area of the window for the question type you selected.
 - If you are adding a Multiple Choice question, enter one choice option in the Choice Text field, click SELECT on the Add button, enter the text of your next choice option, and click SELECT on the Add button. Repeat this process until you have inserted all of the response options. You may also check the "Other" option as well as specify the number of selections allowed.
 - If you are adding an Essay type of question, you don't have to do anything in the properties area. Respondents will be presented with a text editor window in which to write their essay response.
 - If you are adding a Rating Scale type of question, enter labels that define the values associated with your rating scale (e.g., always, sometimes, seldom, never, etc.). Decide in which direction the scale bar should run: across or down.
 - If you are creating a Fill-In-The-Blank question enter each field label on a separate line (e.g., Name:, Dept.:, Years at Sun:, etc. should each appear on a separate field label line).
- 20 5. Point to the Add Question button, and click SELECT to add your question to the survey.
This automatically clears the window so that you may create another question.
- 25 6. Repeat steps 2 through 5 for each question to be added to your survey.
- 30 7. Choose Save Survey as... from the File menu, and enter a simple, one-word name for this survey.
- 35 8. Preview your survey by using one of the following methods:
 - Click SELECT on the View button to bring up an Ascii Survey Overview window.
 - Click SELECT on the Test Survey control to display a sample Answer Module. Remove the Answer Module by clicking SELECT on the Build Survey control.
 - Send the survey to yourself according to instructions in steps 9-11 below.
- 40

45 2-2 SurveyTool User's Guide—March 1993

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- 5 9. Point to the Send Survey... button, and click SELECT.
 The Send Survey pop-up window will open.
- 10 10. Enter the email address(es) of your recipients, the return email address,
 and the message text you wish to accompany the survey.
- 10 11. Point to the Send button, and click SELECT to distribute the survey.
- For detailed instructions and examples of creating a survey, please refer to
Chapter 3, "Building a Survey."

15 *2.3 Answering a Survey*

▼ To Answer a Survey

- 20 1. Open the Mail Tool and double-click SELECT on the header of the survey
 mail you wish to view.
 A message with a survey attachment will be displayed by the Mail Tool.
- 25 2. Point to the survey icon in the Attachments pane, and double-click
 SELECT.
 The Answer Module window will open, displaying the first question of the
 survey.
- 30 3. Read the question and answer it in the manner required.
 This could mean checking boxes, writing text, ranking items, or filling in the
 blanks.
- 35 4. To load and answer the remaining questions in the survey, you may:
 • Click SELECT on the Next (Next Question) or Prev (Previous Question)
 buttons
 • Choose a question number from the Go to menu
- 40 5. Once you've answered the questions, point to the Return Survey button,
 and click SELECT.
- For more detailed information about answering a survey, please refer to
Chapter 4, "Answering a Survey."

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The Impatient User's Quick Start

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2.4 Collecting and Analyzing Responses

▼ To Collect and Analyze Responses to Your Survey

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1. Enter the following command at any UNIX shell command line, and press Return.
`stcollect &`

15

2. Click SELECT on the Load Survey... button, or click SELECT on the File button.

The Load window will open.

20

3. Select the desired survey, point to the Load button, and click SELECT. The name of the survey you loaded will appear in the Survey Loaded field in the Collector Module window.

25

4. If necessary, enter the pathname of the file containing the returned survey in the Collect Results From File field.

The Collector Module defaults to the mailspool file. If you have moved the responses to another file, you will have to enter the new pathname in place of the default mailspool pathname.

30

5. Set the parameters for your results collection by checking the appropriate boxes.

6. Click SELECT on the Collect Survey Results button.

7. View the data collected in the Survey Results window.

For complete instructions on how to collect and interpret survey responses, please refer to Chapter 5, "Collecting Survey Responses."

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Building a Survey



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3.1 Overview

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The Builder Module is the SurveyTool module used to create, modify, and distribute surveys to anyone on the Sun network. It enables you to generate as many questions as you wish, and to provide a variety of possible response methods. This module also lets you specify to whom the survey should be distributed, and enables you to include message text to accompany the emailed survey.

15

3.2 Starting the Builder Module

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▼ To Open the Builder Module Window

- ♦ Enter the following command at any shell-tool command line, and press Return.
`stbuild &`

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SurveyTool then opens the Builder Module window illustrated in Figure 3-1.

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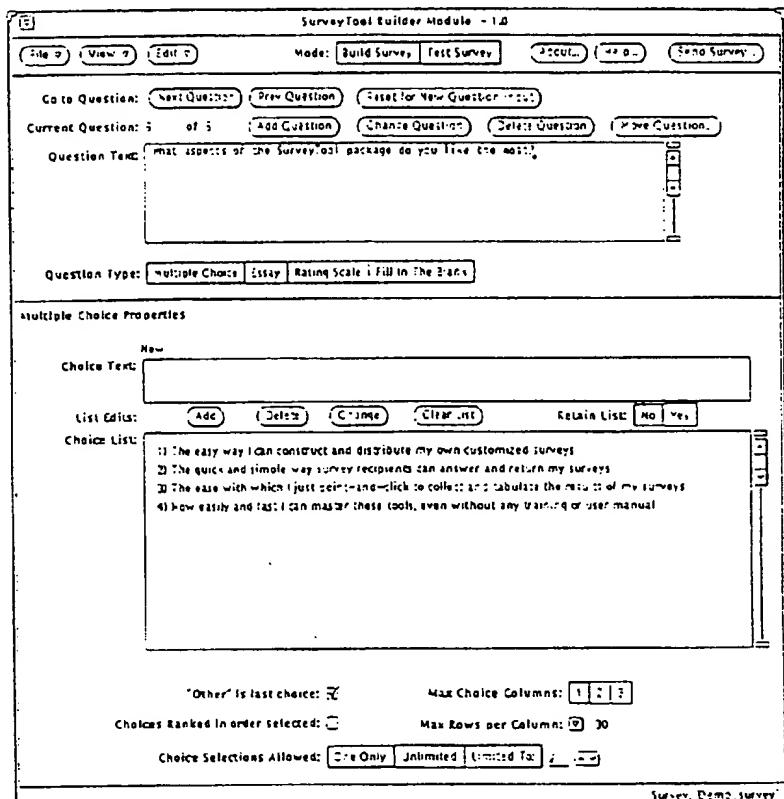


Figure 3-2 Builder Module Base Window

3.3 Builder Module Modes

You can work in two Builder Module modes: Build Survey and Test Survey. When building a new survey, ensure that you are in Build Survey mode. If you wish to view a sample Answer Module, arranged as it would appear to a

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respondent, click SELECT on the Test Survey mode control. Once you have finished looking at the sample Answer Module, click SELECT on the Build Survey mode control and the Answer Module window will close.

10

Note - If you remain in the Test Survey mode, any edit to the survey will open the Answer Module window to show you the changes that have been made.

15

3.4 General Builder Module Procedure

1. Open the SurveyTool Builder Module window, as explained in Section 3.2, "Starting the Builder Module".

2. Type in the text for your question in the Question Text area.

20

3. Point to the type of question you wish to create, and click SELECT. Your options include:

- Multiple Choice
- Essay
- Rating Scale
- Fill In The Blank

25

4. Complete the Properties portion of the window, as explained in the later sections of this chapter.

30

5. Point to the Add Question button, and click SELECT.

6. Check the appearance of your question by clicking SELECT on the Test Survey mode control to bring up a sample Answer Module.

This will show you how your question will appear to the respondent. Click SELECT on the Build Survey control in the Builder Module window to return to the building mode and to close the sample Answer Module.

35

7. Repeat steps 2 through 5 for each additional question you wish to create.

40

8. Choose Save As... from the File menu and enter a name for the survey you've created.

Choose a simple, one-word name (i.e. *not* a pathname) for the survey.

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- 5 9. Point to the Send Survey... button. This displays the Send Survey pop-up window.
- 10 a. In the Send To field, specify to whom the survey should be sent.
 List the addresses or aliases of your intended recipients
- 10 b. In the Return To field enter the email address to which the surveys are
 to be returned.
 This field is preloaded with your own email address as the default.
- 15 c. In the Mail Message Text area, enter the message that will accompany
 your survey.
- 15 10. Click SELECT on the Send button.
 Your survey will now be mailed to the designated recipients.

20 Note - We highly recommend that you first send the survey to yourself and to
 a few colleagues. This will enable you to proof the survey before sending it out
 to a broader distribution.

25 3.5 Specific Builder Module Procedures

Now that you know the basics of building a survey, the remaining sections of this chapter provide details on how to:

- Use the buttons in the Question and Properties areas
- Create each type of survey question
- Save a survey
- View a survey
- Make changes to a survey
- Distribute a survey
- Delete a survey

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5 3.6 Using the Buttons in the Question and Properties Areas

The Question area of each Builder Module window includes the following buttons:

| | | |
|----|-------------------------------------|--|
| 10 | Next Question | Loads and displays the next question in the survey. |
| | Prev Question | Loads and displays the previous question in the survey. |
| 15 | Reset for New Question Input | Clears the window so that you may add a new question to the survey. |
| | Add Question | Adds the text in the Question Text pane to the survey. |
| 20 | Change Question | Updates the current question with the changes you've made. |
| | Delete Question | Deletes the current question from the survey. |
| | Move Question... | Rearranges the order of the questions. Additional move functions are located in the Edit menu. |
| 25 | Retain List | If set to Yes, the Choice List pane is not cleared after the question is added to the survey. |

Depending on the type of question you are adding, the Answer Properties area of the window may include four other buttons:

| | | |
|----|-------------------|---|
| 30 | Add | Adds entries in the Choice Text pane to the current question's Choice List. |
| | Delete | Deletes selected text from the Choice List. |
| 35 | Change | Modifies text selected in the Choice List. |
| | Clear List | Clears the Choice List. |

3.7 Creating a Multiple Choice Question

40 You can create multiple choice questions which call for either a single response (exclusive), more than one response (non-exclusive), or a ranked order.

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5

▼ To Create a Multiple Choice Question

1. Enter the text of your question in the Question Text pane.
2. In the Question Type area, point to Multiple Choice, and click SELECT.
3. In the Choice Text pane, enter the first of your multiple choice responses, point to the Add button, and click SELECT.
The text from the Choice Text pane will display in the Choice List. The numbers in the Choice Text pane are for reference only, and will not appear in the Answer Module.

10

Note – If you make a mistake when entering your choices, simply point to the erroneous choice in the Choice List, and click SELECT. This loads the choice text in the Choice Text pane so that you may change it. Once you've made the necessary change(s), point to the Change button, and click SELECT. (Section 3.14, "Making Changes" provides additional instructions, and includes details on changing the order of survey questions.)

15

4. Repeat Step 3 for each additional choice you wish to enter.

20

5. Check the box labelled: "Other" is last choice, if you'd like "Other" to appear as a choice.
The "Other" option will not appear in the Choice List, but the Answer Module will provide it as one of the possible choices. A small text pane will accompany the "Other" choice in the Answer Module, allowing the respondent to enter an answer.

25

6. Select Yes or No in the Retain List control.
 - If you are creating many multiple choice questions with similar choices, set the Retain List control to Yes. This will leave your list of choices in the Choice Text pane (allowing you to edit wherever necessary) when you add the question to your survey.
 - If you leave the control set on No (the default setting), your Choice Text pane will clear every time you add a question to your survey.
7. Decide whether you would like to limit the respondent to one answer, a limited number of answers, unlimited answers, or whether you'd like them to rank their choices.
 - One answer: Adjust the Choice Selections Allowed control to One Only.

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- Unlimited answers: Adjust the Choice Selections Allowed control to Unlimited.
 - Limited number of answers: Adjust the Choice Selections Allowed control to Limited To, and use the arrow glyphs to bring up the desired number.
 - Ranked choices: Check the box next to Choices Ranked in order selected field.
- 10

15

Note – Don't worry about including a message that tells users whether or not they can choose more than one response. SurveyTool will only allow the respondent to enter the correct response based on the options listed above.

- 20
8. Point to the Add Question button in the Question area, and click SELECT. Your question and choices will be added to the survey.
- Figure 3-1 shown on page 3-2 illustrates a Builder Module window with a multiple choice type question calling for a single response, and having "Other" as a last choice.

25 **3.8 Formatting a Multiple Choice Question**

30

The Builder Module provides you with the means to format your multiple choice question. While most survey builders won't need to format their questions, situations may arise in which your choices are too long, or too numerous to make the conventional format (illustrated in Figure 3-1) practical.

35 **▼ To Format a Multiple Choice Question**

1. Adjust the Max Choice Columns control to 1, 2, or 3
The more columns you choose, the narrower each column will be. The lines of text will wrap around automatically when you have selected narrow columns.
 2. Adjust the Max Rows per Column field by choosing the desired number from the menu grid.
Your choice will be displayed in the field. Use this feature to restrict the length of your columns. This will ensure that all of your questions appear in the Answer Module, and are not hidden or obscured.
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Note - Formatting changes will only appear in the Answer Module. Use the Test Survey control to preview the format and layout of the Answer Module.

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Figure 3-2 shows an Answer Module formatted with 3 columns and a maximum of 4 rows per column.

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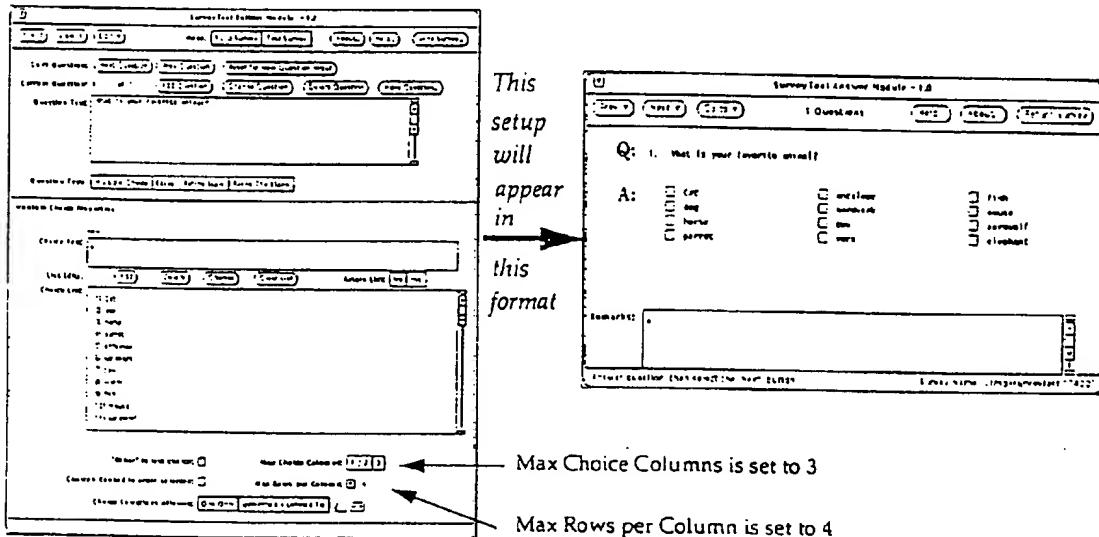


Figure 3-2 Answer Module Formatted for Multiple Choice Question

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3.9 Creating an Essay Question

The Builder Module lets you create an Essay type of question. You simply enter the text of the question, and allow users to enter free-form text from the keyboard. For multiple-line responses, SurveyTool provides an auto-wrap function at the end of lines.

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You may limit the user's response to a particular number of words by indicating your requirements in the Question Text pane.

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▼ To Create an Essay Question

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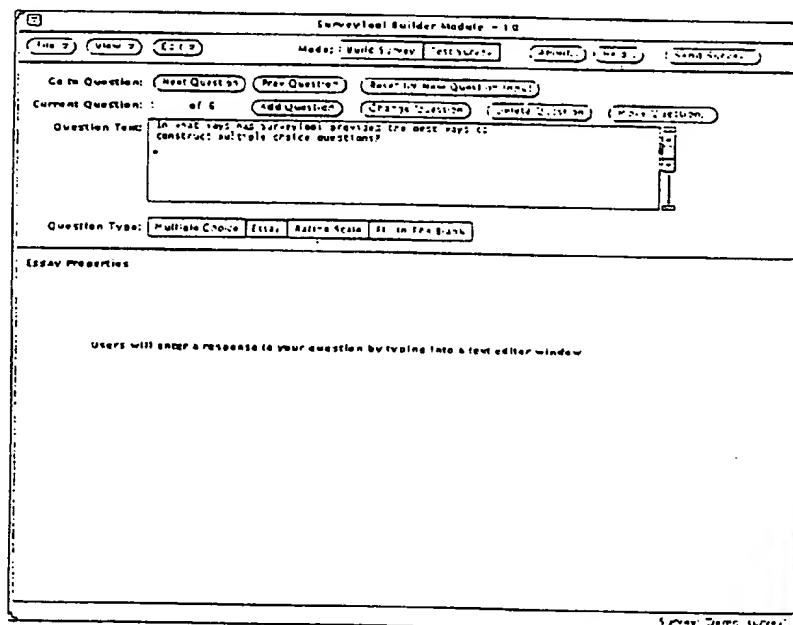
1. Enter the text of your question in the Question Text pane.
2. In the Question Type control, point to Essay, and click SELECT. The Properties area changes to resemble .
3. Point to the Add Question button, and click SELECT. Your Essay question will be added to the survey.

15

Note - Essay questions will not yield statistics. The results will simply be gathered and consolidated when responses are collected. If you want to collect metrics and statistics, you should use the Multiple Choice or Rating Scale question types.

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Figure 3-3 Builder Module Window with Essay Response

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3.10 Creating a Rating Scale Question

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A question may request the user's rating of a particular issue (e.g., How often do you answer surveys received via email?). You simply list your range of choices in the Choice List (e.g., Always, Often, Sometimes, Seldom, Never). Figure 3-4 illustrates a sample Rating Scale question created with the Builder Module.

15

▼ To Create a Rating Scale Question

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1. Enter the text of your question in the Question Text pane.
2. In the Question Type area, point to Rating Scale, and click SELECT. The Properties area will change to resemble that shown in Figure 3-4.
3. Enter your answers in the Choice Text area, and add each answer to the Choice List by clicking SELECT on the Add button.
4. Select Yes or No in the Retain List control.
 - If you are creating many Rating Scale questions with similar choices, set the Retain List control to Yes. This will leave your list of choices in the Choice Text pane (allowing you to edit where necessary) when you add the question to your survey. This will save you from having to retype all the choices.
 - If you leave the control set to No (the default setting), your Choice Text pane will clear every time you add a question to your survey.
5. Use the Layout the Rating Scale Choices control to specify whether your choice control scale runs horizontally (Across) or vertically (Down). The length of each choice and the available window space will guide you in your decision whether to use Across or Down.
 - If you can fit your choices into a horizontal scale which is not cut short by the edge of the Answer Module window, then use the Across option.
 - If your choices make the scale too wide to fit into the Answer Module window, use the Down option to stack them on top of one another.
6. Click SELECT on the Add Question button. Your question and Rating Scale choices will be added to the survey.

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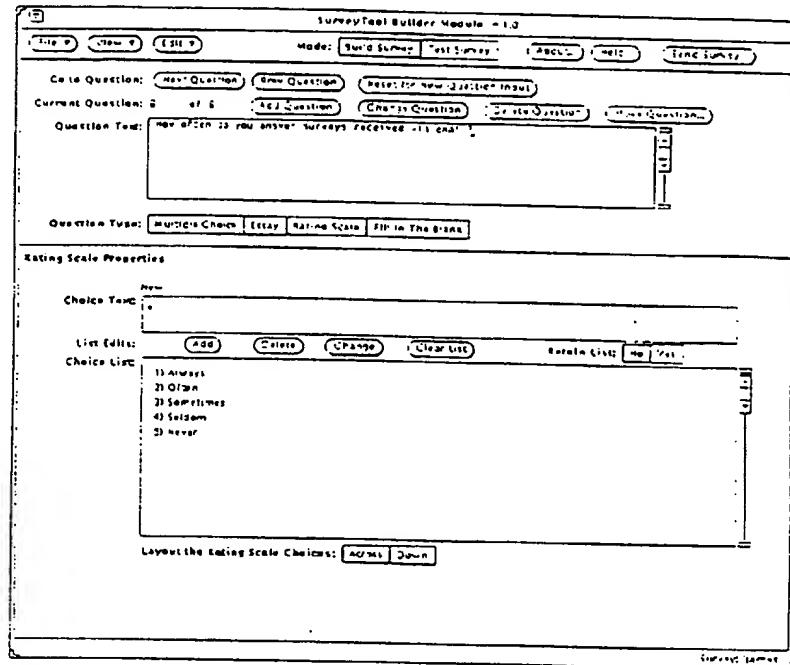


Figure 3-4 Builder Module Window with Rating Scale Question

3.11 Creating a Fill-In-The-Blank Question

The Fill-In-The-Blank type of question is useful for eliciting multiple responses to a particular request (for example, asking for the user's name, address, telephone number, department number, etc.). You may specify up to 10 different field labels per question.

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▼ To Create a Fill-In-The-Blank Question

1. In the Question Text pane, enter your question or an explanation of the information you're requesting.
For example, if you're prompting for name, department, phone extension, etc., your question text might read "Provide the following information about yourself."
2. In the Question Type control, point to Fill In The Blank, and click SELECT.
The answer properties area will change to resemble Figure 3-5.
3. Move to the Field Label field, and enter the first label.
This label, For example, Name, will appear as a prompt and a field in the Answer Module.
4. Continue entering labels, one per Field Label line.
You may enter a maximum of 10 labels.
5. Point to the Add Question button, and click SELECT.
Your question and field choices will be added to the survey.

25

Note - Fill-In-The-Blank questions will not yield statistics. The results will simply be gathered and consolidated when responses are collected. If you want to collect metrics and statistics, you should use the Multiple Choice or Rating Scale question types.

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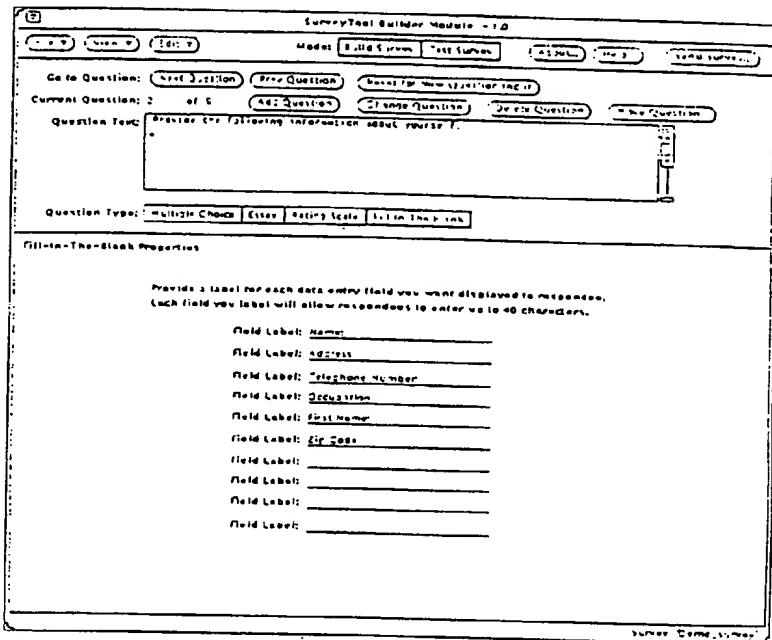


Figure 3-5 Builder Module Window with Fill-In-The-Blank Question

3.12 Saving a Survey

You must name and save a survey before you can distribute it. If you attempt to distribute a survey that has not been saved, or a survey that contains unsaved changes, SurveyTool will notify you and prompt you to use the File menu to save your survey.

Note - Be sure to save the survey using a simple one-word file name. DO NOT use a file pathname

5

▼ To save a survey

- ♦ Point to the File menu button, press MENU, and choose one of the following options:

10

Save Survey as... Choose this option if this is a new survey. You will then be prompted to enter a simple one-word filename for your survey.

15

Save Survey Choose this option if you have previously saved but have since made changes to the current survey.

Delete Survey Choose this option if you wish to delete the entire survey.

Unload Survey Choose this option if you wish to discontinue the current survey.

20

Surveys are automatically stored in one of two directories, depending on how your environment variables are set:

25

- In a ".survey" directory under your home directory (created by default if the SURVEYHOME environment variable is not set).
- In the directory specified by you in the SURVEYHOME environment variable.

For information regarding your environment setup, please contact your system administrator.

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3.13 Viewing a Survey

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At any time, you may view, or proof, the survey you are creating, as well as any other SurveyTool survey you have created and saved.

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▼ To View an ASCII Representation of the Current Survey

1. Point to the View button near the header of the Builder Module window, and click SELECT.

The Ascii Survey Overview window opens, and displays the current question and possible choices within a scrolling, read-only ascii dump of the survey.

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Figure 3-6 illustrates a typical display of what happens when Question 1 is the current question and you click SELECT on the View button.

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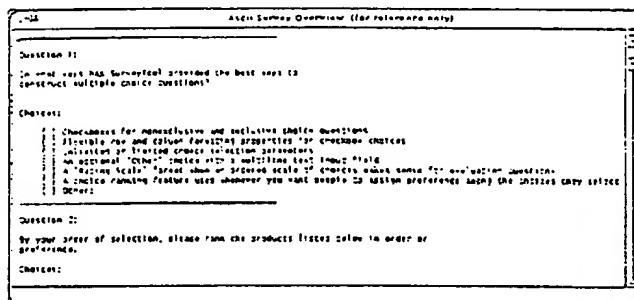


Figure 3-6 Ascii Survey Overview Window

2. Use the vertical scrollbar to move through and view the survey text.

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Note - This is a read-only window. If you wish to make changes, return to the Builder window and see Section 3.14, "Making Changes" for instructions.

3. Print your Survey Overview window by following normal procedures for printing a Text Editor window.
See "Printing" on page 5-9 in Chapter Five, "Collecting Survey Responses."

▼ To View a Sample Answer Module

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1. Click SELECT on the Test Survey mode control in the Builder Module window.

An Answer Module window, identical to the one your recipients will receive, will open, allowing you to preview the format and arrangement of your questions.

2. Click SELECT on the Build Survey mode control in the Builder Module window to close the Answer Module and to resume building your survey.

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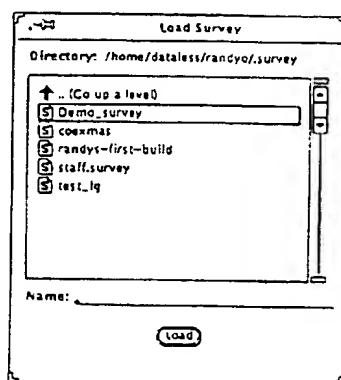
▼ To View a Different Survey

1. Choose Load Survey... from the File menu.
This displays the Load Survey pop-up window (see Figure 3-7).

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Figure 3-7 Load Survey Pop-up Window

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2. Point to the desired survey name, and click SELECT to highlight it.
You also have the option of entering the survey name in the Directory field.

3. Point to the Load button, and click SELECT.

Surveys are automatically stored in one of two directories, depending on how your environment variables are set:

- In a ".survey" directory under your home directory (created by default if the SURVEYHOME environment variable is not set).
- In the directory specified by you in the SURVEYHOME environment variable.

For information regarding your environment setup, please contact your system administrator.

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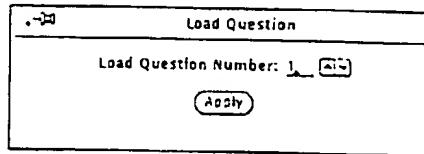
5 *3.14 Making Changes*

Making changes to Question or Choice text is a simple procedure.

10 ▼ To Change a Question

1. Use the Prev Question or Next Question buttons to display the question you wish to change, or use the Load Question option:
 - a. Choose Load Question... from the Edit menu.
 - b. Use the arrow glyphs in the Load Question pop-up window to enter the desired question number in the Load Question Number field.
 - c. Point to Apply, and click SELECT.
Builder displays the appropriate question and its properties.

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Figure 3-8 Load Question Window

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2. Make the necessary changes:
 - To change Question Text, make the necessary changes to the Question Text, point to the Change Question button, and click SELECT. This automatically saves your changes.
 - To change Multiple Choice or Rating Scale Choice Text, click SELECT on the choice displayed in the Choice List. This displays the selected choice in the Choice Text pane. Make the necessary changes, point to the Change Question button, and click SELECT.
 - To change Question Type, the Properties area will display the appropriate response options. Make the necessary changes, point to the Change Question button, and click SELECT.
 - To change the location of a question, refer to the next section.
3. After you have made changes to the currently loaded question, click SELECT on the New Question button.
This resets the Builder Module and lets you add a new question.

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3.15 Moving a Question Within a Survey

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The Builder Module enables you to move a question around (reorder a question) within a survey. You may move the current question to the following locations:

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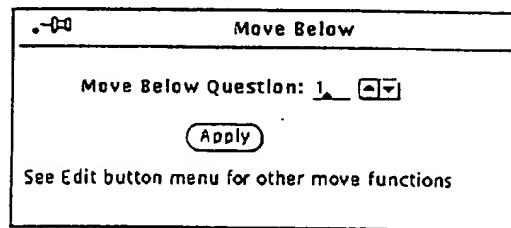
- To the end of the survey (Bottom)
- Before a particular question number (Above Question)
- After a particular question number (Below Question)
- To the beginning of the survey (Top)

20

▼ To Move a Question

1. Access the question you wish to change (see "To Change a Question" on page 17).
2. Click SELECT on the Move Question... button.
The Move Below window shown Figure 3-9 in will open.

25



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Figure 3-9 The Move Below Window

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3. Choose the new location from the Move Below window.
Adjust the question number with the arrow glyphs, and click SELECT on the Apply button.
4. You may choose Move Question> from the Edit menu for different moving functions.
The following points detail all the Move options available from the Edit menu.

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- 5 • If you choose **Above Question...**, the Builder Module displays the "Move Above..." pop-up window and prompts for a question number. Enter or choose the appropriate question number. The current question will appear above (immediately before) the question number you specify in the Move Above Question field.
- 10 • If you choose **Below Question...**, the Builder Module displays the "Move Below..." popup window and prompts for a question number. Enter or choose the appropriate question number. The current question will appear below (immediately following) the question number you specify in the Move Below Question field.
- 15 • If you choose **Top** or **Bottom**, the Builder Module will move the question to the beginning or the end of the survey.

▼ To Add Additional Questions

- 20 Builder enables you to add a question to a particular location within your survey. There are two ways to do this, depending on where you want to insert your new question.
 - ◆ To add a new question to the end of the survey, point to the Add Question button, and click SELECT. This clears the window so that you may enter the text of your question and possible answers.
 - ◆ To add a new question *elsewhere in the survey*, choose the Add Question option from the Edit menu, and use the specific Add Question option from the pull-right menu. Once you've decided where in the survey you wish to add the new question, the Builder Module will automatically re-position survey questions to reflect the addition.
- 25
- 30

▼ To Delete a Question

- 35 1. Access the question you wish to delete.
- 2. If you wish to delete the currently loaded question and all associated answer text, point to the Delete Question button, and click SELECT. You may also use the Delete pull-right menu in the Edit menu to delete a question.
- 40

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3.16 Distributing a Survey

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Note that you must name and save a survey before you can distribute it. If you attempt to distribute a new survey that has not been saved, or a survey that has been modified but not yet saved with the new changes, SurveyTool will display a notice box prompting you to save your survey (changes) before allowing you to proceed.

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▼ To Distribute a Survey

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1. Point to the Send Survey... button, and click SELECT. This automatically displays the Send Survey pop-up window illustrated in Figure 3-10.

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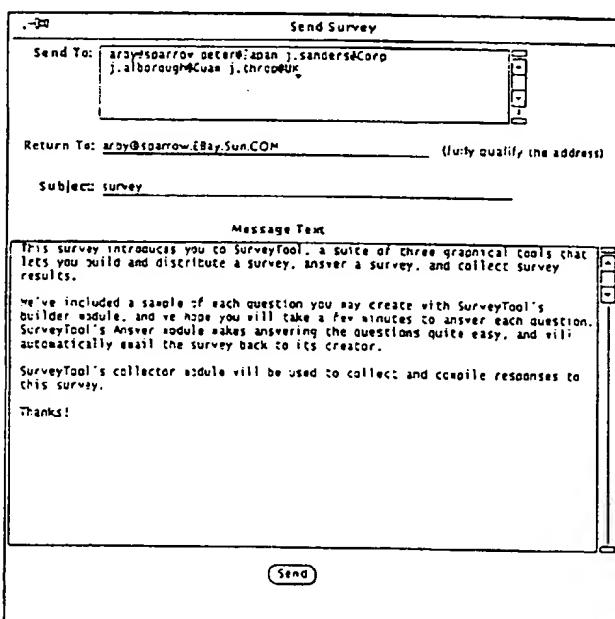


Figure 3-10 Completed Send Survey Window.

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Note - If you wish to distribute a different survey (a survey other than the currently displayed survey), you must first load the desired survey (see Section 3.13, "Viewing a Survey") and then follow these instructions.

10

2. In the Send To field, enter the email address or alias to which you wish to send the survey. If you wish to send the survey to more than one address, separate each address with a blank space.
As with any email message, remember to fully qualify any email addresses that are outside your NIS domain.

15

Note - For proofing purposes, you should first send the survey to yourself, answer it, and return it.

20

3. Enter the fully qualified email address (including domain) that the survey responses will be returned to in the Return To field.
Your email address is preloaded as a default Return To address.
4. Enter a message in the Mail Message Text area.
Usually this will consist of introductory comments and instructions.
5. When you are ready to distribute the survey, point to the Send button, and click SELECT.

30

Note - Once you have sent out the survey, avoid modifying the survey. Should you need to modify a distributed survey, send it out under a different name. Collect your results separately under the names of the original and the modified survey.

3.17 Deleting a Survey

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When you wish to delete a survey from disk, follow these simple instructions:

1. Load the survey you wish to delete.
2. Pull down the Builder Module's File menu, and choose Delete Survey.

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Building a Survey

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Answering a Survey



4.1 Overview

10 The SurveyTool Answer Module is designed for maximum simplicity and ease-of-use, so a user manual should not be needed. This chapter is only added for the sake of completeness.

15 The Answer Module is the SurveyTool window that lets you answer a survey that has been sent to your email address. SurveyTool integrates this module with Sun's Mail Tool application, and distributes a survey as a distinct email message attachment.

20 Responding to and returning a survey is a simple, 3-step process:

- 21 1. Open the attachment icon in the survey mail you received.
- 22 2. Choose/enter the appropriate response to each question you wish to answer.
- 23 3. Use the Return Survey button to automatically return the completed survey.

25 The following sections explain this procedure in more detail.

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4.2 Opening "Survey Mail"

▼ To Open the Answer Module

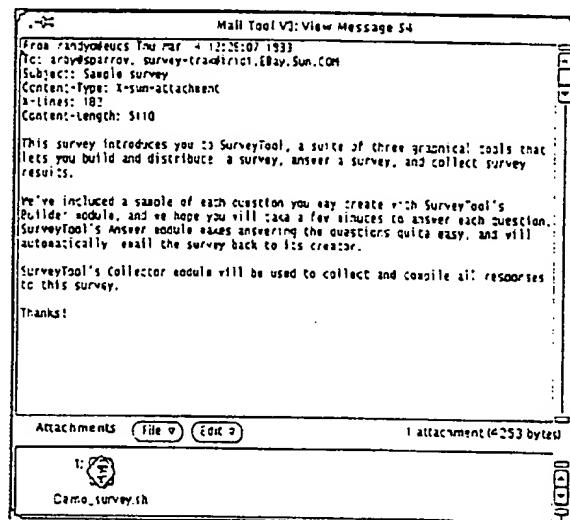
10

1. Choose the survey mail message from the Mail Tool header list. This automatically displays the message text provided by the survey creator and an Attachments pane that includes an executable attachment icon bearing the survey name.

15

Figure 4-1 illustrates a sample Mail Tool/SurveyTool attachment display.

20



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Figure 4-1 Mail Tool Header with a SurveyTool Attachment

40

2. Double-click SELECT on the executable icon in the Attachments pane. A pop-up notice advises you that the icon you selected is really an executable, and prompts you to confirm that you wish to run SurveyTool.
3. Click SELECT on the "run it" button. After a brief delay, SurveyTool will automatically load the Answer Module and display the first question.

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4-2

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Figure 4-2 illustrates how SurveyTool presents questions and possible answers.

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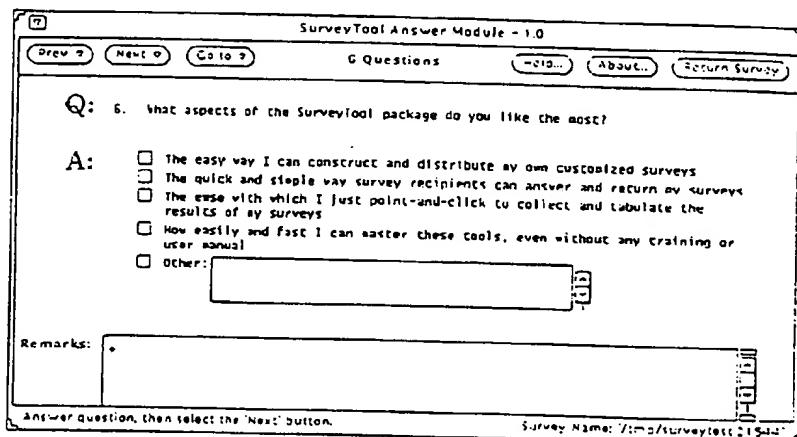


Figure 4-2 Survey Question Viewed in the Answer Module Window

4.3 Answering Survey Questions

Once you double-click on the email attachment and the Answer Module window opens, you have the option of answering all, or some, of the survey's questions. Survey questions may call for multiple-choice answers, prompt you for an essay response, ask you to rate or rank the available choices, or prompt you to fill in the blanks. The following sections explain how to respond to the various types of SurveyTool Answer Module questions.

When you wish to move on to a different question, you may:

- Use the Next and Prev buttons to automatically view the next/previous question in sequential order
- Choose a question number from the Go to menu

You are not required to respond to all questions; you may simply move through the survey using the methods listed above and answer any of the questions.

5 **4.4 Multiple Choice Questions**

Use the following guidelines to respond to a multiple choice question. SurveyTool will indicate whether or not you may choose more than one answer.

- 10
- ▼ To Answer Multiple Choice Questions
1. Point to the checkbox next to the most appropriate choice, and click SELECT.
15 You may choose as many responses as are appropriate by clicking SELECT in the checkboxes. SurveyTool will not allow you to choose more than one answer if the creator specified a limit of one selectable choice. The question text should indicate how many choices are allowed.
 2. If the sender included "Other" as a possible answer and you wish to enter your own response:
 - a. Check the checkbox next to "Other"
 - b. Enter the text of your response in the "Other" pane (displayed next to the "Other" option)

20

25 Figure 4-2 on the previous page illustrates a sample multiple-choice question/response as it appears in the Answer Module.

4.5 Ranking the Choices Provided

- 30
- These questions are similar to multiple-choice questions in that there are several options from which to choose. In the Choice Rank type of response, however, the sender wants you to assign a rank (a priority or assignment of importance) to each of the answers provided.
- 35 Figure 4-3 illustrates a question that prompts you to rank the available choices.

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45 4-4 SurveyTool User's Guide—March 1993

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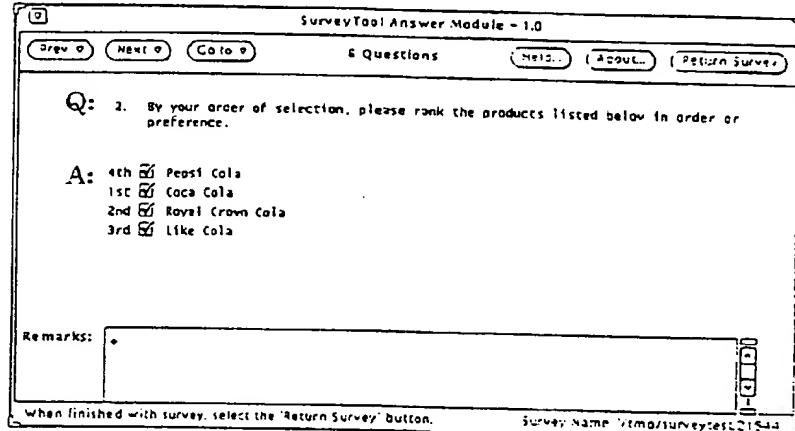


Figure 4-3 Answer Module Prompting You to Rank the Choices Provided

▼ To Rank the Choices Provided:

1. Point to your first choice (highest preference among the choices provided), and click SELECT.
SurveyTool automatically registers your selection by printing "1st" next to the choice.
2. Point to your second choice, and click SELECT.
Once again, your selection is registered by the word, "2nd" appearing next to your choice.

4.6 Essay Responses

A question may prompt you to enter a response from the keyboard. You may enter as much text as you wish.

Figure 4-4 illustrates a sample Essay question/answer.

Answering a Survey

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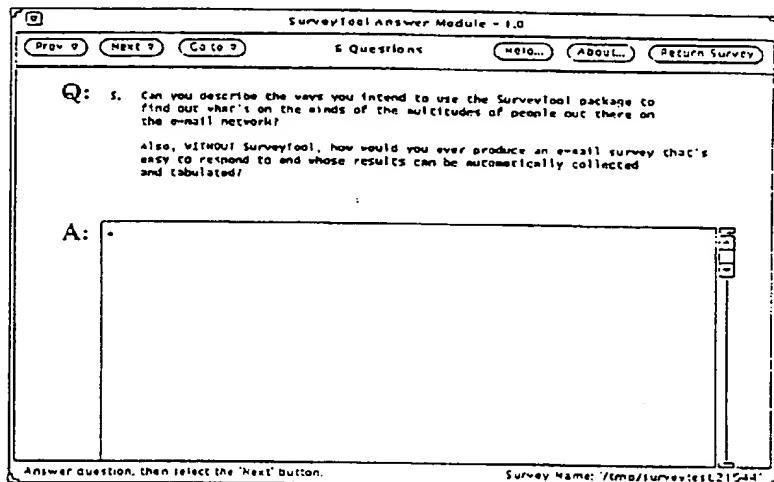


Figure 4-4 Answer Module With an Essay Response

4.7 Rating Scale

Some questions attempt to find out how you would rate a topic. The question introduces the topic and the answer is presented as a scale on which you supply your rating.

▼ To Rate the Idea Presented

1. Point to the word that best reflects your opinion, and click SELECT. You can only choose one answer for a Rating Scale question.
2. You may also enter any remarks you may have in the Remarks pane.

Figure 4-5 illustrates a question that prompts you to rate how often you answer surveys received via email.

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4.5 Filling In The Blanks

Fill-In-The-Blank type questions may contain up to 10 distinct fields. Simply move to the data entry area next to each field label and enter your response from the keyboard.

Figure 4-6 illustrates the Fill-In-The-Blank format.

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The screenshot shows a web-based survey module titled "SurveyTool Answer Module - 1.0". At the top, there are navigation buttons: "Prev", "Next", "Go to", "Help...", "About...", and "Return Survey". Below these, it says "6 Questions". The main content area contains a question labeled "Q: 4. Please provide information in the blanks below." followed by several text input fields:
- Company: _____
- Department: _____
- Phone Extension: _____
- Last Name: _____
- First Name: _____
- Zip Code: _____
Below the input fields is a "Remarks:" text area with a scroll bar. At the bottom of the screen, there is a message "Answer question, then select the 'Next' button." and a "Survey Name: /tmp/surveytest1393" field.

Figure 4-6 Fill In The Blank Format in the Answer Module

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Answering a Survey

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5 **4.9 Changing an Answer**

Before returning the survey, you can change/add to any of your answers.

10 ▼ To Change an Answer

1. Display the question/response you wish to change. There are three ways to do this:
 - Use the Go to menu to choose a question number.
 - Use the Next or Prev button to display the appropriate question.
 - Use the Next Unanswered option under the Next or Prev pull-down button menus.
2. How you change an answer is based on the type of question you are answering:
 - To change a Multiple Choice answer, simply click SELECT on the appropriate answer. This automatically cancels your earlier response.
 - To change a Fill-In-The-Blank response, set the insertion point in the appropriate location and make the necessary changes.
 - To change a Rating Scale response, simply point to the desired rating, and click SELECT. This automatically changes the rating.
 - To change a Ranked Multiple Choice answer, simply repeat the procedure outlined above in "Ranking the Choices Provided".

30 **4.10 Returning a Survey**

- ♦ When you are ready to return the survey, point to the Return Survey button, and click SELECT.

If you did not complete the survey, SurveyTool will tell you how many survey questions are currently unanswered and will prompt you to either:

- Continue working on the survey
- Return it as-is

If you choose to continue, SurveyTool will return you to the question you were previously viewing/answering.

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Note - You cannot quit (exit) SurveyTool without returning the survey. If you want to temporarily quit working on the survey, you may close the survey to an icon.

10

Once you confirm that you want to return the survey, SurveyTool will automatically return the survey to a builder-specified email address. The Answer Module will disappear once you return the survey. When the user presses the Return Survey button, the survey will be returned automatically.

15

4.11 Forwarding a Survey to Another User

Using standard Mail Tool procedures, you can forward a copy of the survey to any other user on the network, by simply attaching it to your email message.

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Answering a Survey

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Survey Tool then displays an unpopulated Collector Module window similar to the one illustrated in Figure 5-1. The unpopulated window will not have the survey and filename information and all the checkboxes will be empty.

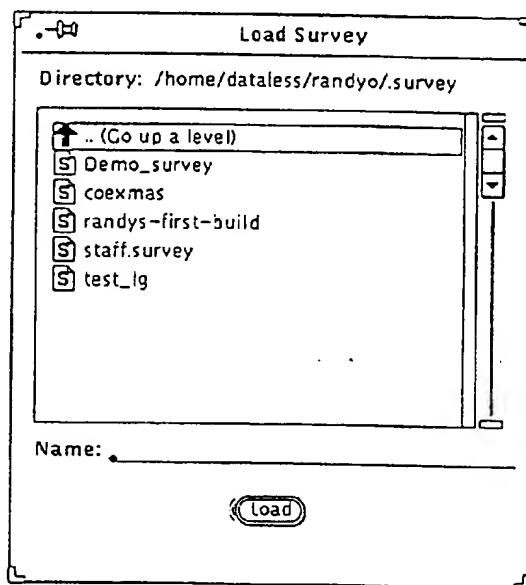
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▼ To Gather Survey Responses

1. From the File menu, choose the Load Survey... option, or click SELECT on the Load Survey... button.
The Load Survey pop-up window will open.

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Figure 5-2 Collector Collect Survey Window

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2. Select a survey from the scrolling list, point to the Load button, and click SELECT.
The Collector Module window will open and will confirm which survey has been loaded by naming the survey in the Survey Loaded field.

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- 5 3. Enter the full pathname of the mail folder which contains the returned survey responses in the Collect Results From File field. If you have not moved returned surveys from the Mail Tool into another mail folder, leave the default mail spool file pathname in the Collect Results From File field. If necessary, see the Mail Filing property sheet in Mail Tool to find out which directory contains your mail folder files.
- 10 4. Set the parameters for your collection by checking the appropriate checkboxes:
- 15 • You can decide to view one or all of the questions in the survey by checking the boxes in the For Questions area.
- You can stipulate which type of results you would like to collect by checking any number of boxes in the Collect this Info area. Table 5-1 details and explains your Collect Data options.

Table 5-1 Collect Data Options

| Category | Explanation |
|--|---|
| Selection frequency and percentage across choice items | Summarizes the answers to a multiple choice question showing count and percent distribution |
| Selection frequency and percentage across choice items by rank | Summarizes the answers of a ranking-type multiple choice question. NOTE: This compilation will be time-consuming. Omit if not necessary |
| Text inputs to the "Other" multiple choice | Collects all the text inputs from the Other category of a multiple choice question |
| Text inputs to essay answers | Assembles the answers to essay questions |
| Text inputs to "Remarks" area | Collects any entries in Remarks areas |
| Text inputs to labeled fields | Assembles Fill In The Blank type answers |
| Who any text inputs are from | Lists the respondents who entered text answers |

- 20 5. To view the results, click SELECT on the Collect Survey Results button. A window such as the one in Figure 5-3 will open.

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Collecting Survey Responses



5.1 Overview

- 10 The Collector Module is the SurveyTool module that enables you, the survey builder/creator, to collect and analyze survey responses. The Collector Module scans the mail files (returned by respondents), tallies the responses, and provides the following information about the survey you distributed:
- 15 • A compilation of basic statistics about the survey responses
- 20 • A summary of all text responses (remarks, essays, inputs to fields, Fill-In-The-Blank answers, and entries in the "Other" multiple choice pane)
- The number of surveys returned
- A list of respondents
- Response summary that specifies how many respondents answered each question

Figure 5-1 illustrates a Collector Module window.

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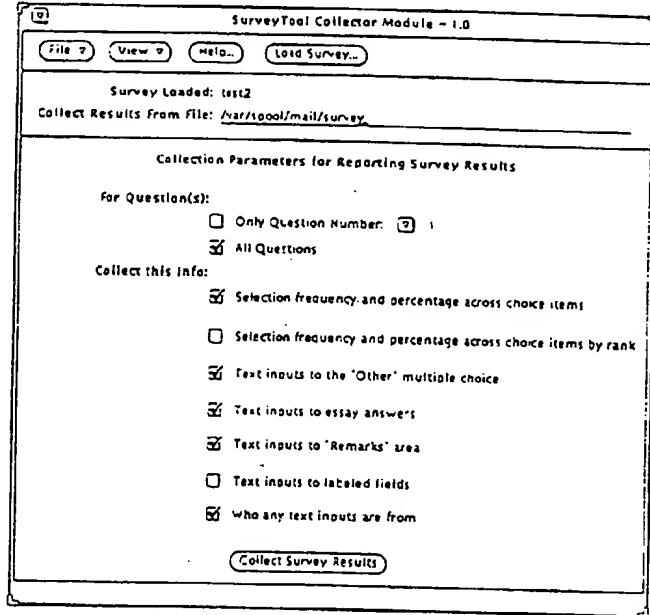


Figure 5-1 SurveyTool Collector Module Window

The Collector Module is designed to collect and summarize the data provided by users responding to a SurveyTool survey. It does not provide charting or graphing functions, but in the future may provide a data output format that may be integrated into other applications, including Lotus 1-2-3.

Note – To collect surveys, you must have access to the original survey file "saved" by the Builder Module.

5.2 Starting Collector

- ◆ To collect responses to a survey, enter the following command at any UNIX shell command line, and press Return.
stcollect s

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SurveyTool User's Guide—March 1993

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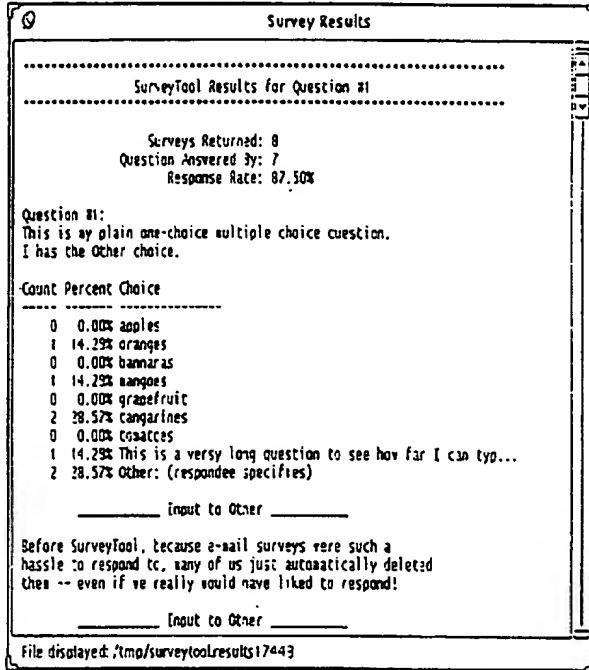
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*Figure 5-3 The Survey Results Window.*

The View button allows you to open various windows which will assist you in assessing your survey and the responses you received.

- The Survey Results menu option also opens the Survey Results window pictured in Figure 5-3.
- The Survey Receipt info menu option opens the window shown in Figure 5-4. It displays a list of respondents to the survey named in the Survey Loaded field.

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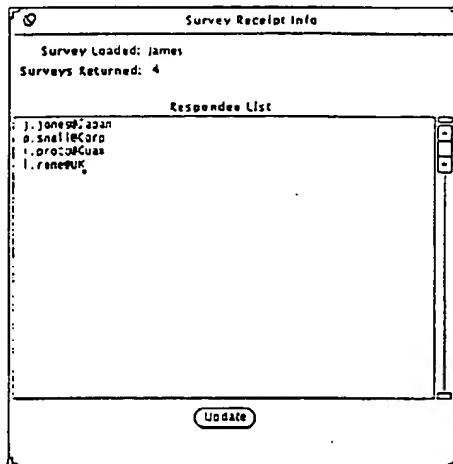


Figure 5-4 The Survey Receipt Info Window

- The Survey in Answer Module menu option opens the Answer Module which was sent out as an attachment to your survey. You can use this window to inspect the exact appearance of the question that was presented to the respondents. This is useful if the answers you receive are unexpected or erroneous in some way.

5.3 Interpreting Results

Most of the statistics gathered by SurveyTool are readily and easily understandable. This section briefly explains each type of question and certain points on the data you will read in the Survey Results window.

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Exclusive Multiple Choice

Note in Figure 5-5 that the percentages will add up to 100% since each respondent can only select one choice.

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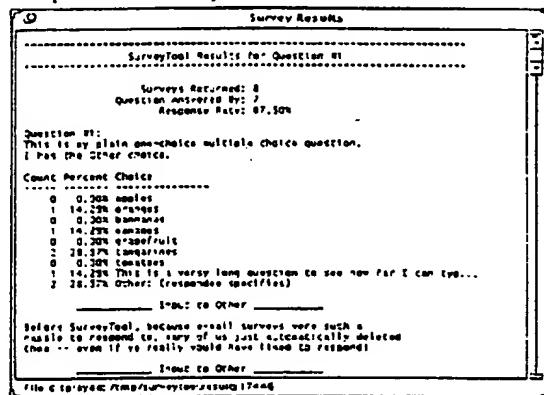


Figure 5-5 Survey Results Window with Exclusive Multiple Choice Compilation

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Nonexclusive Multiple Choice

In a nonexclusive multiple choice question, shown in Figure 5-6, you may notice that the sum of percentages can exceed 100%. This is not an error, since the respondents had the option of choosing any number of choices.

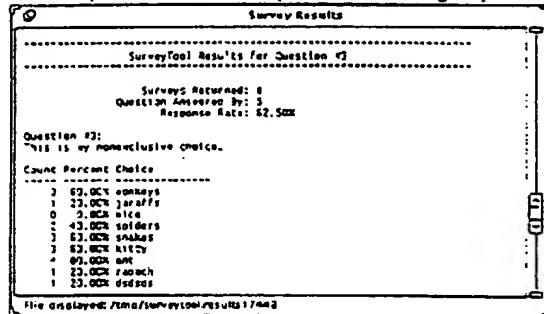


Figure 5-6 Survey Results Window with Non-Exclusive Multiple Choice Compilation

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Ranking of Choices

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The results for ranked choices are presented in individual summaries. Each option reflects the number of people who ranked a choice 1st, 2nd, 3rd, etc. The summary percentage count and analysis, shown in Figure 5-7, reflects the number of people who ranked a particular choice, and individual ranking selections for each choice.

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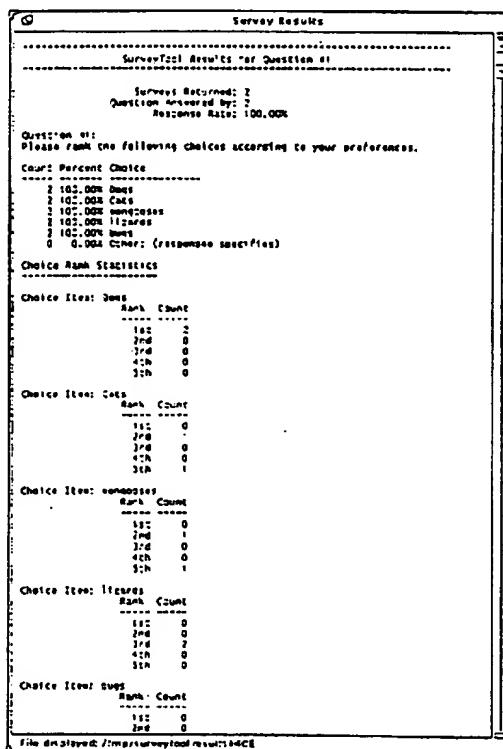


Figure 5-7 Survey Results Window with Ranked Choice Compilation

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5 *5.4 Printing*

SurveyTool currently does not support a Print function. You can print your survey results by saving the file to a Text Editor file.

10 ▼ To Save to a Text Editor File for Printing

1. Point to the text area of the Survey Results window, and Press MENU.
2. Drag across the File> option and choose the Store in New File option.
- 15 3. In the Text:Store pop-up window, name the file, and click SELECT on the Store as New File button.
4. Print by using the UNIX command (lpr filename) in the Command Tool or File Manager window.
- 20 5. Alternatively, simply print the filename displayed at the bottom of the text window.

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Collecting Survey Responses

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Installing SurveyTool



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To install SurveyTool, ensure that the SurveyTool binaries directory is in your search path.

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The SurveyTool software package is available via Sun's software distribution systems (SoftDist, UsrDist). Access to SurveyTool will require /usr/dist/exe be in your search path.

15

If Sun's software distribution systems are not available to you, send an email message to SurveyTool@irid1.EBay.Sun.Com.

20

Note - This appendix applies only to users who wish to build and collect responses to surveys. You need not install SurveyTool if you only wish to answer (respond to) surveys.

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Quick Reference

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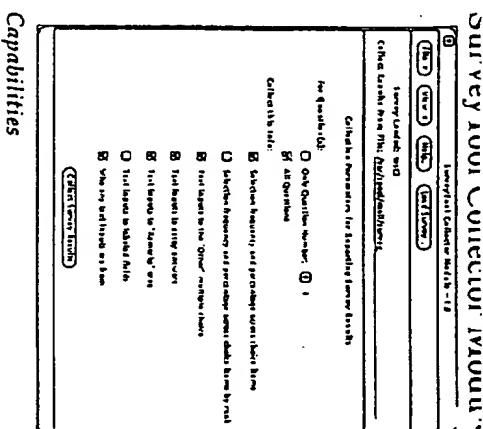
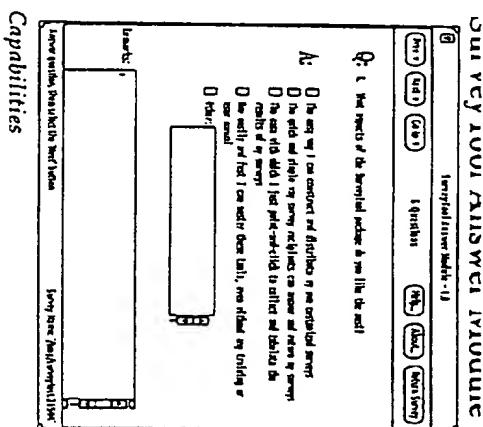
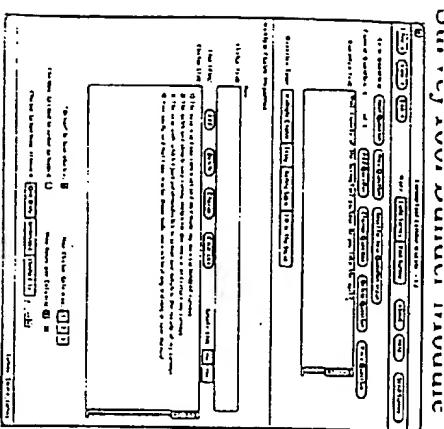
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Title of Book—Month 1992

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Capabilities

As a survey builder, you can use the Builder module to:

- Create and distribute surveys
- Produce Multiple Choice, Essay, Fill-In-The-Blank, and Rating Scale questions.

Procedure

1. Open the Builder Module by entering stbuilder in a UNIX shell.
2. Enter your question in the Question Text area.
3. Click SELECT on the desired Question Type control, e.g., Multiple Choice.
4. Enter your answer choices in the Properties area of the window.
5. Click SELECT on Add button to add each choice to the Choice list.
6. Click SELECT on the Add Question button to add the entire question to your survey.
7. Repeat steps 2-6 to add questions.
8. Click SELECT on the Send Survey... button.
9. Enter the email addresses of recipients in the Send To pane.
10. Click SELECT on Send button.

SurveyTool 1.0

Quick Reference

If you would like more detailed information, order the SurveyTool 1.0 User's Guide from the GOM center. Part number M1-000-01.

APPENDIX B

O-IDIUM 3
O-type O
O-test 92 BY You're order of selection, please rank the products listed below in
order of preference.

D-INDIUM 7
D-TETE 0
D-TET 60 [Mild acids of the Surfactant market are an excellent source]

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Page

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:0-CHOICE-MARROWS 50
:0-CHOICE-HACKOLS 1
:0-CHOICES BEGIN
:0-CHOICE 69 The easy way I can construct and distribute my own customized surv
ey.
:0-CHOICE 75 The quick and simple way survey recipients can answer and return a
y surveys
:0-CHOICE 92 The ease with which I just point-and-click to collect and tabulate
the results of my surveys
:0-CHOICE 6 How easily and fast I can master these tools, even without any tra
ining or user manual
:0-CHOICES END
:0-CHOICE-OTHER
:0-END



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APPENDIX C

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SurveyTool Answer Module - 2.0

Prev ▾ Next ▾ Go to ▾ 7 Questions Help... About... Return Survey

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Q: 1. Tony Blake aims to work with our internal customers, SMCC, Sunsoft, etc. to provide whatever is needed to generate revenue for Sun.

15

A: PERFORMANCE — Rate HOW WELL this is being done:

Excellent Good Fair Poor Falling

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IMPORTANCE — Rate HOW IMPORTANT is this to you:

Extremely Important Very Important Important Somewhat Important Not Important

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Remarks: 

Answer question, then select the 'Next' button. Survey Name: 'Demo_survey'

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SurveyTool Answer Module - 2.0

Prev ▾ Next ▾ Go to ▾ 7 Questions Help... About... Return Survey

Q: 2. In what ways has SurveyTool provided the best ways to construct multiple choice questions?

A:

- Checkboxes for nonexclusive and exclusive choice questions
- Flexible row and column formatting properties for checkbox choices
- Unlimited or limited choice selection parameters
- An optional "Other" choice with a multiline text input field
- A "Rating Scale" format when an ordered scale of choices makes sense for evaluation questions
- A choice ranking feature used whenever you want people to assign preference among the choices they select
- Other:

Remarks:

Answer question, then select the 'Next' button. Survey Name: 'Demo_survey'

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SurveyTool Answer Module - 2.0

Prev ▾ Next ▾ Go to ▾ 7 Questions Help... About... Return Survey

Q: 3. By you're order of selection, please rank the products listed below in order or preference.

A:

- Pepsi Cola
- Coca Cola
- Royal Crown Cola
- Like Cola

Remarks:

Answer question, then select the 'Next' button. Survey Name: 'Demo_survey'

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SurveyTool Answer Module - 2.0

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10 Q: 4. Of the e-mail survey you'd like to respond to, how often do you delete these surveys from your e-mail because they are too much of a hassle to respond to?

15 A: Always Often Sometimes Seldom Never

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25 Remarks: ♦

30 Answer question, then select the 'Next' button. Survey Name: 'Demo_survey'

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SurveyTool Answer Module - 2.0

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S. Please provide information in the blanks below.
(This is just to demo the software -- no need to give this info)

10 Company: _____
Department: _____
Phone Extension: _____
Last Name: _____
First Name: _____
Zip Code: _____
Course Number: _____
Course Name: _____
Your Manager: _____
Course date: _____
25
Remarks: ▲ ▾
Answer question, then select the 'Next' button. Survey Name: 'Demo_survey'
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SurveyTool Answer Module - 2.0

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Q: 6. Can you describe the ways you might intend to use the SurveyTool package to find out what's on the minds of people out there on the network?
WITHOUT SurveyTool, how would you ever produce an e-mail survey that's easy to respond to and whose results can be automatically collected and tabulated?

A: •

Answer question, then select the 'Next' button. Survey Name: 'Demo_survey'

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SurveyTool Answer Module - 2.0

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Q: 7. What aspects of the SurveyTool package do you like the most?

A:

- The easy way I can construct and distribute my own customized surveys
- The quick and simple way survey recipients can answer and return my surveys
- The ease with which I just point-and-click to collect and tabulate the results of my surveys
- How easily and fast I can master these tools, even without any training or user manual
- Other:

Remarks:

Answer question, then select the 'Next' button. Survey Name: 'Demo_survey'

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Claims

1. A method for conducting a graphical survey transmitted over a computer network having a plurality of nodes inter-connecting a plurality of computers, the method being implemented as a plurality of program instructions and data stored in the plurality of computers, each said computer including a central processing unit (CPU), a memory coupled to the CPU, a video display device coupled to the CPU, an input device coupled to the CPU, and wherein the plurality of computers include an enquiring computer and a receiving computer, the method including the enquiring computer-implemented steps of:
 - generating at least one query for said graphical survey;
 - encoding said graphical survey in a survey description language (SDL); and
 - transmitting said SDL encoded survey attached to a survey electronic mail (email) over said computer network to a targeted user at said receiving computer.
2. The method of claim 1 wherein said SDL includes ASCII characters.
3. The method of claim 1 or claim 2, further comprising the receiving computer-implemented steps of:
 - receiving said survey email with said attached SDL encoded survey; and
 - instantiating said SDL encoded survey.
4. The method of claim 3 wherein said instantiating step include the steps of:
 - decoding said SDL encoded survey into a graphical form;
 - generating a graphical interface based on said graphical form on said receiving computer for interacting with said targeted user;
 - recording at least one survey response from said targeted user;
 - encoding said survey response in a survey result language (SRL); and
 - transmitting said SRL encoded survey response attached to an answer email to a designated node of said computer network.
5. The method of claim 4 further comprising the step of storing said SRL encoded survey response in a survey cache coupled to said designated node.
6. The method of claim 4 or claim 5, wherein said graphical interface is bit mapped and includes radio button(s) and textual window(s).
7. The method of any of claims 4 to 6, wherein said SRL includes ASCII characters.
8. The method of any of claims 4 to 7, wherein one of said plurality of computers is a reviewing computer, said method further comprising the reviewing computer-implemented steps of:
 - retrieving said SRL encoded survey response attached to said answer email;
 - interpreting said survey response to produce a survey report; and
 - outputting the survey report.
9. The method of claim 8 wherein the interpreting step includes the computer-implemented steps of:
 - generating scan pattern tokens;
 - matching scan patterns with said survey response; and
 - tabulating matched patterns from the matching step to produce the survey report.
10. A method for responding a graphical survey transmitted over a computer network having a plurality of nodes inter-connecting a plurality of computers, the method being implemented as a plurality of program instructions and data stored in the plurality of computers, each said computer including a central processing unit (CPU), a memory coupled to the CPU, a video display device coupled to the CPU, an input device coupled to the CPU, and wherein the plurality of computers include a receiving computer, the method including the receiving computer-implemented steps of:
 - receiving a survey electronic mail (email) with a graphical survey attachment, said graphical survey including at least one query and encoded in a survey description language (SDL); and
 - instantiating said SDL encoded survey.
11. The method of claim 10 wherein said instantiating step include the steps of:
 - decoding said SDL encoded survey into a graphical form;

generating a graphical interface based on said graphical form on said receiving computer for interacting with said targeted user;

recording at least one survey response from said targeted user;

encoding said survey response in a survey result language (SRL); and

5 transmitting said SRL encoded survey response attached to an answer email to a designated node of said computer network.

12. The method of claim 11 further comprising the step of storing said SRL encoded survey response in a survey cache coupled to said designated node.

10 13. The method of claim 11 or claim 12, wherein said graphical interface is bit mapped and includes radio button(s) and textual window(s).

15 14. The method of any of claims 11 to 13, wherein said SRL include ASCII characters.

15 15. The method of any of claims 11 to 14, wherein one of said plurality of computers is a reviewing computer, said method further comprising the reviewing computer-implemented steps of:
retrieving said SRL encoded survey response attached said answer email;
interpreting said survey response to produce a survey report; and
20 outputting said survey report.

16. The method of claim 15 wherein the interpreting step includes the computer-implemented steps of:
generating scan pattern tokens;
matching scan patterns with said survey response; and
25 tabulating matched patterns from the matching step to produce the survey report.

17. A method for processing a survey response transmitted over a computer network having a plurality of nodes inter-connecting a plurality of computers, the method being implemented as a plurality of program instructions and data stored in the plurality of computers, each said computer including a central processing unit (CPU), a memory coupled to the CPU, a video display device coupled to the CPU, an input device coupled to the CPU, and wherein the plurality of computers include a reviewing computer, the method including the reviewing computer-implemented steps of:
retrieving a survey response from a node of said computer network, said survey response encoded in a survey result language (SRL);
interpreting said survey response to produce a survey report; and
35 outputting said survey report.

18. The method of claim 17 wherein the interpreting step includes the computer-implemented steps of:
generating scan pattern tokens;
matching scan patterns with said survey response; and
40 tabulating matched patterns from the matching step to produce the survey report.

19. The method of claim 17 or claim 18, wherein said SRL include ASCII characters.

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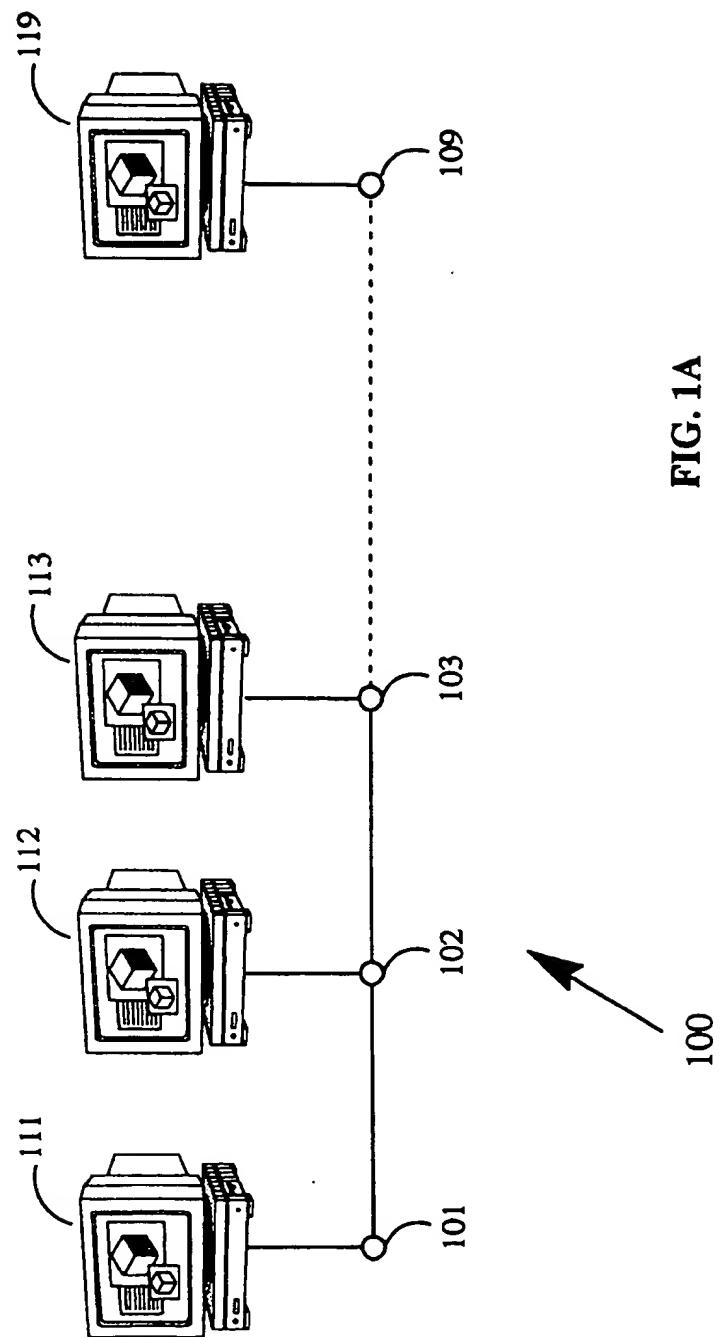


FIG. 1A

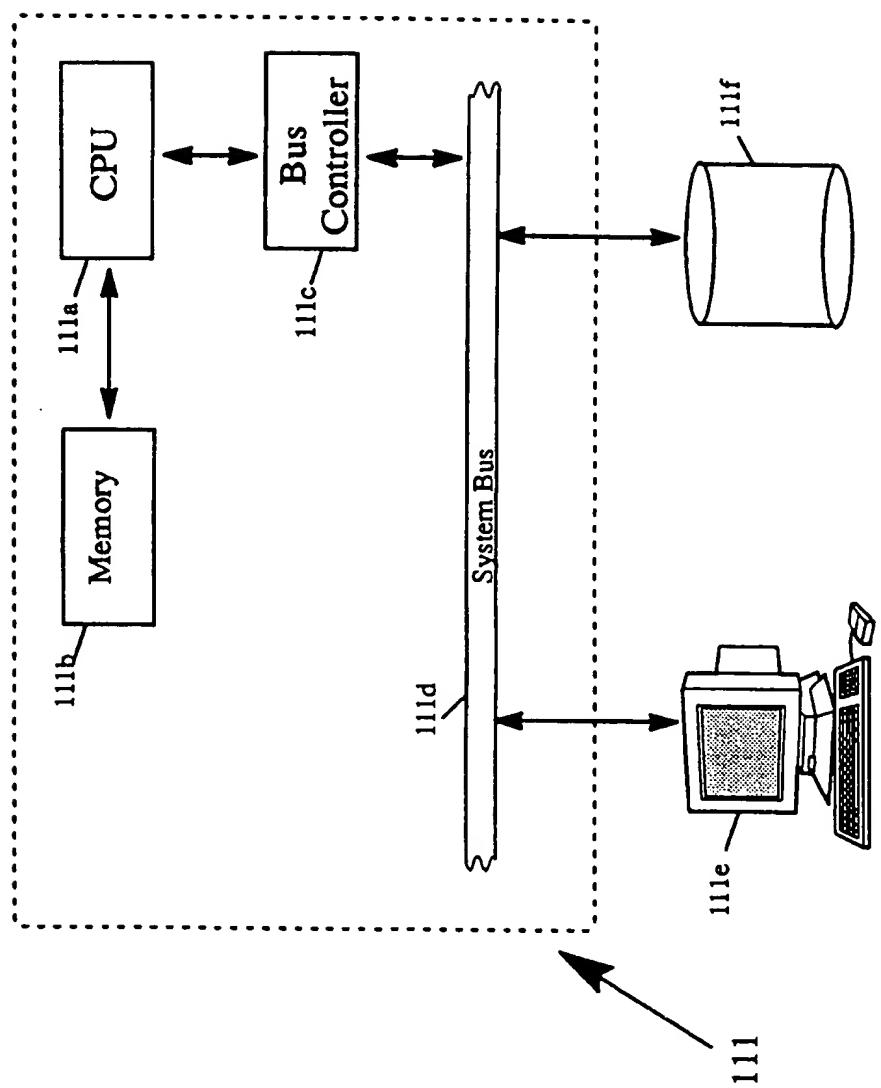


FIG. 1B

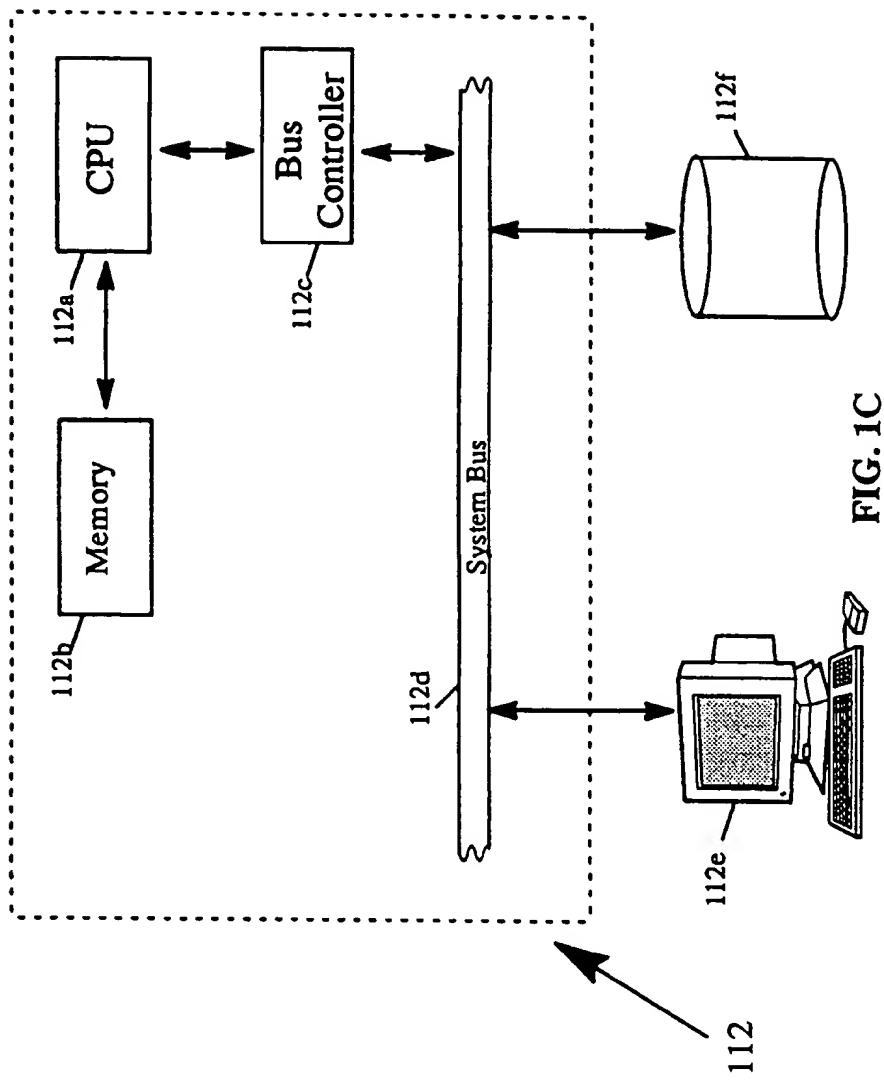


FIG. 1C

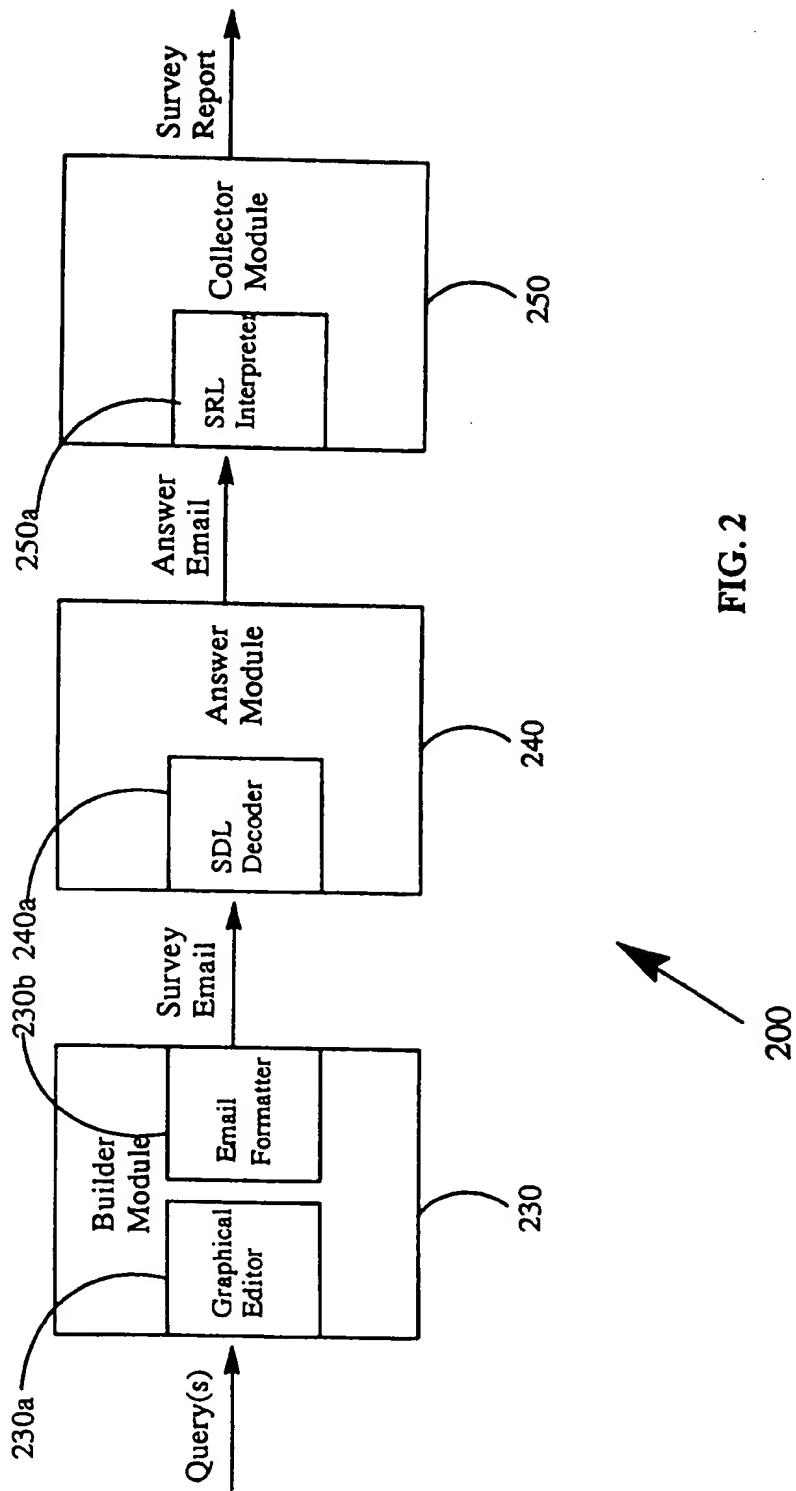


FIG. 2

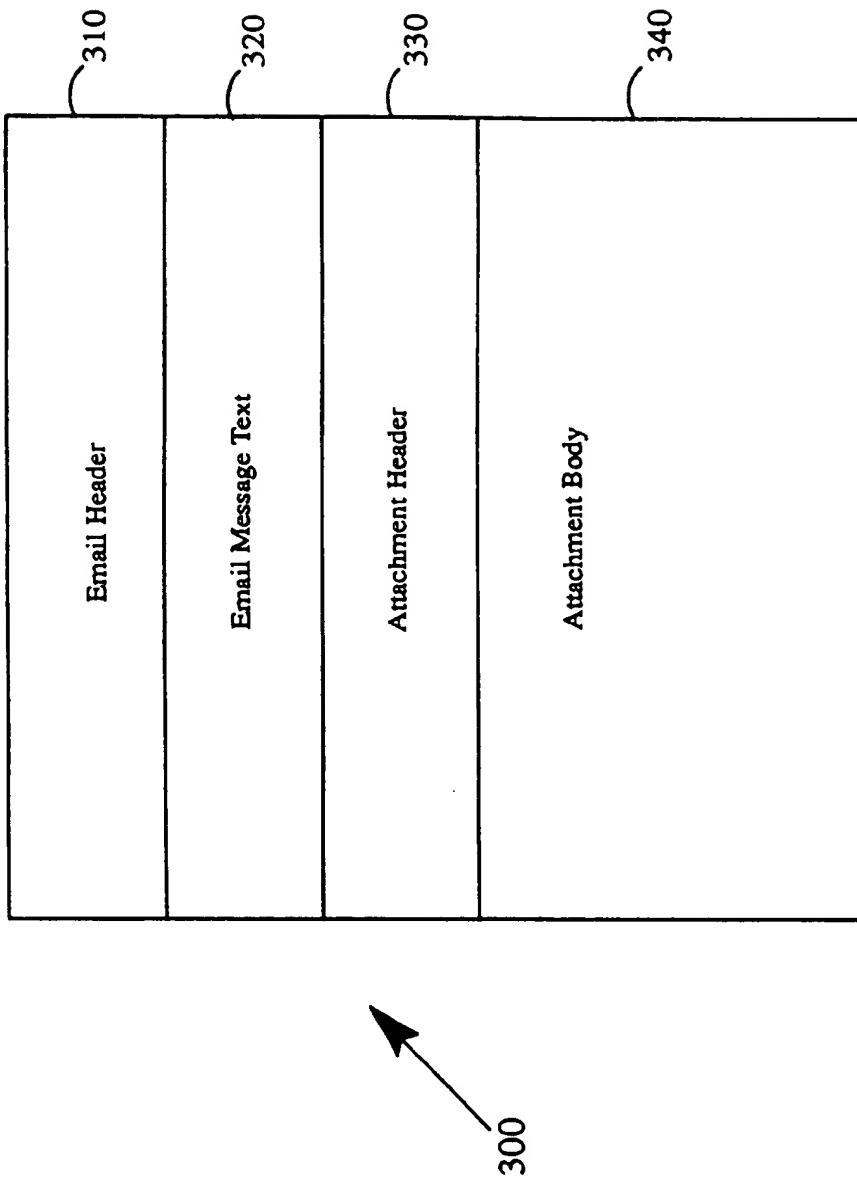


FIG. 3

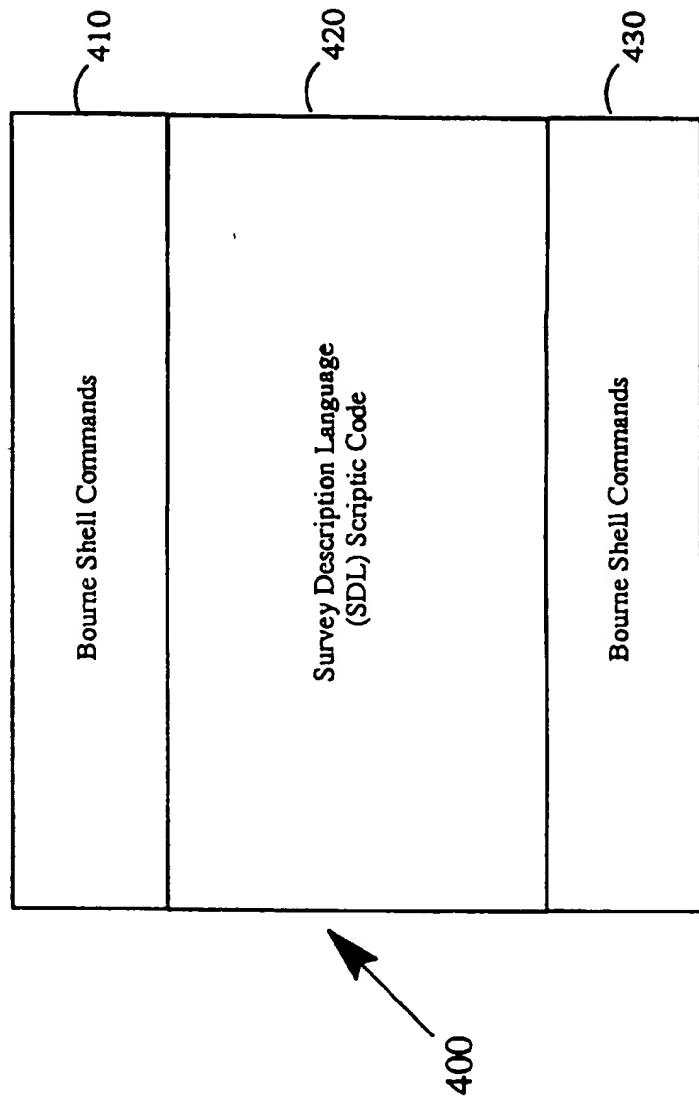


FIG. 4

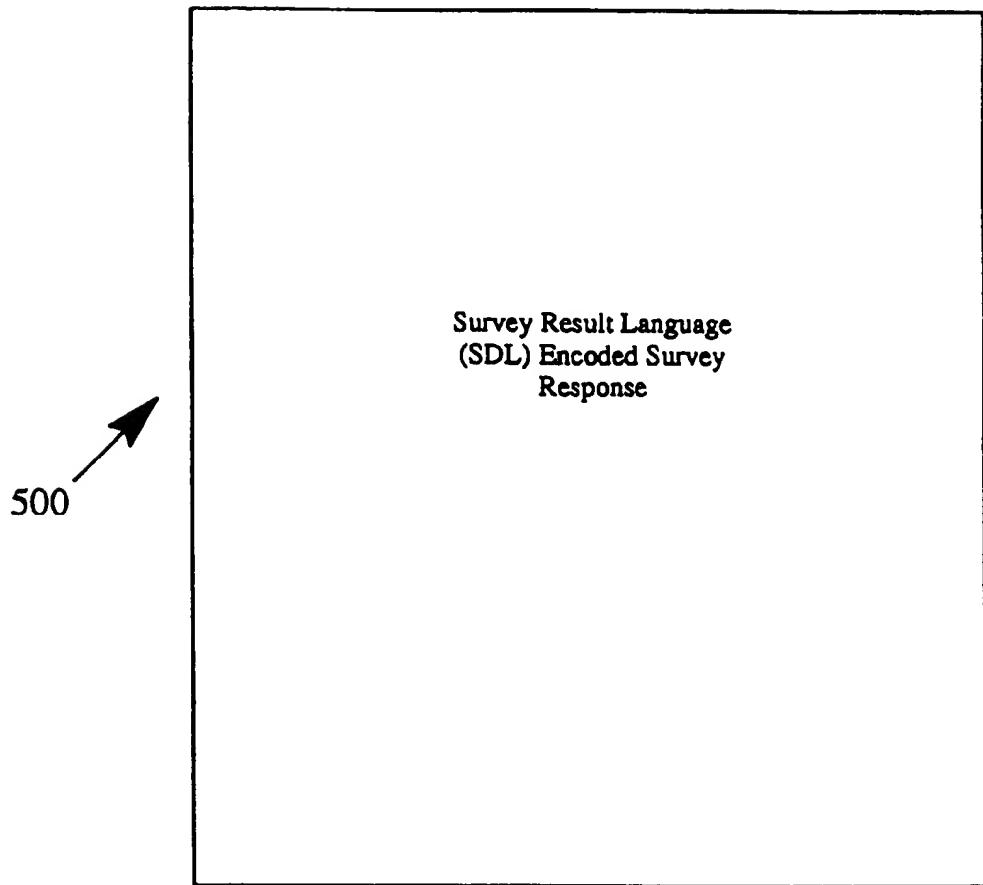


FIG. 5

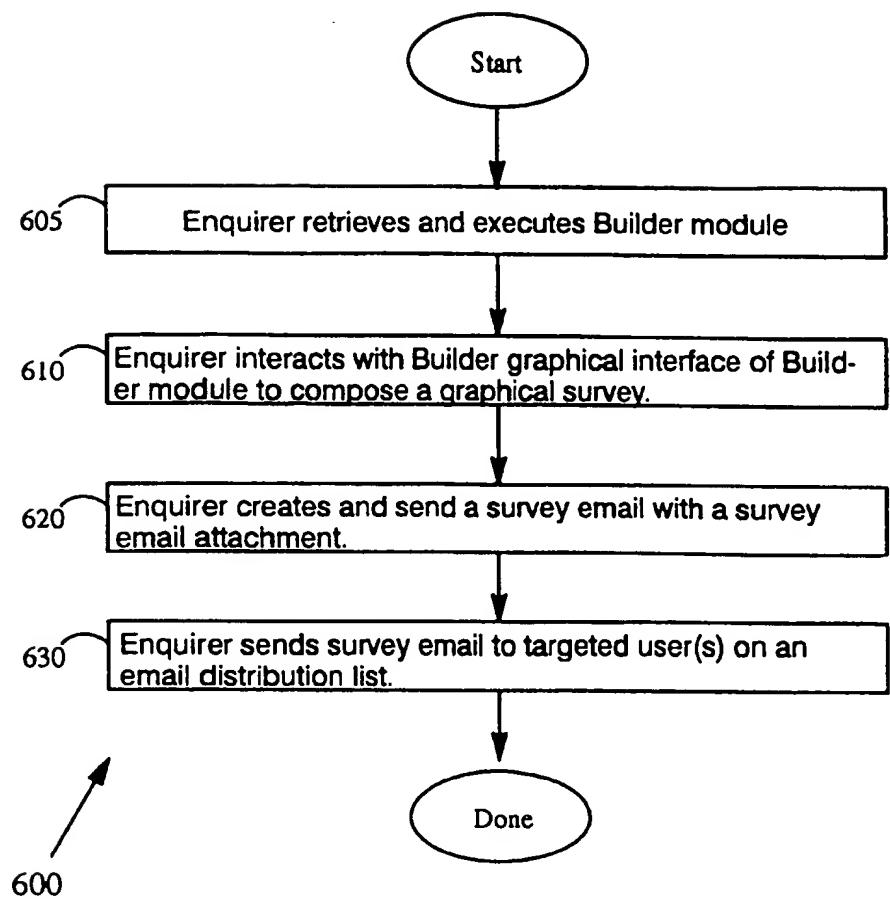


FIG. 6A

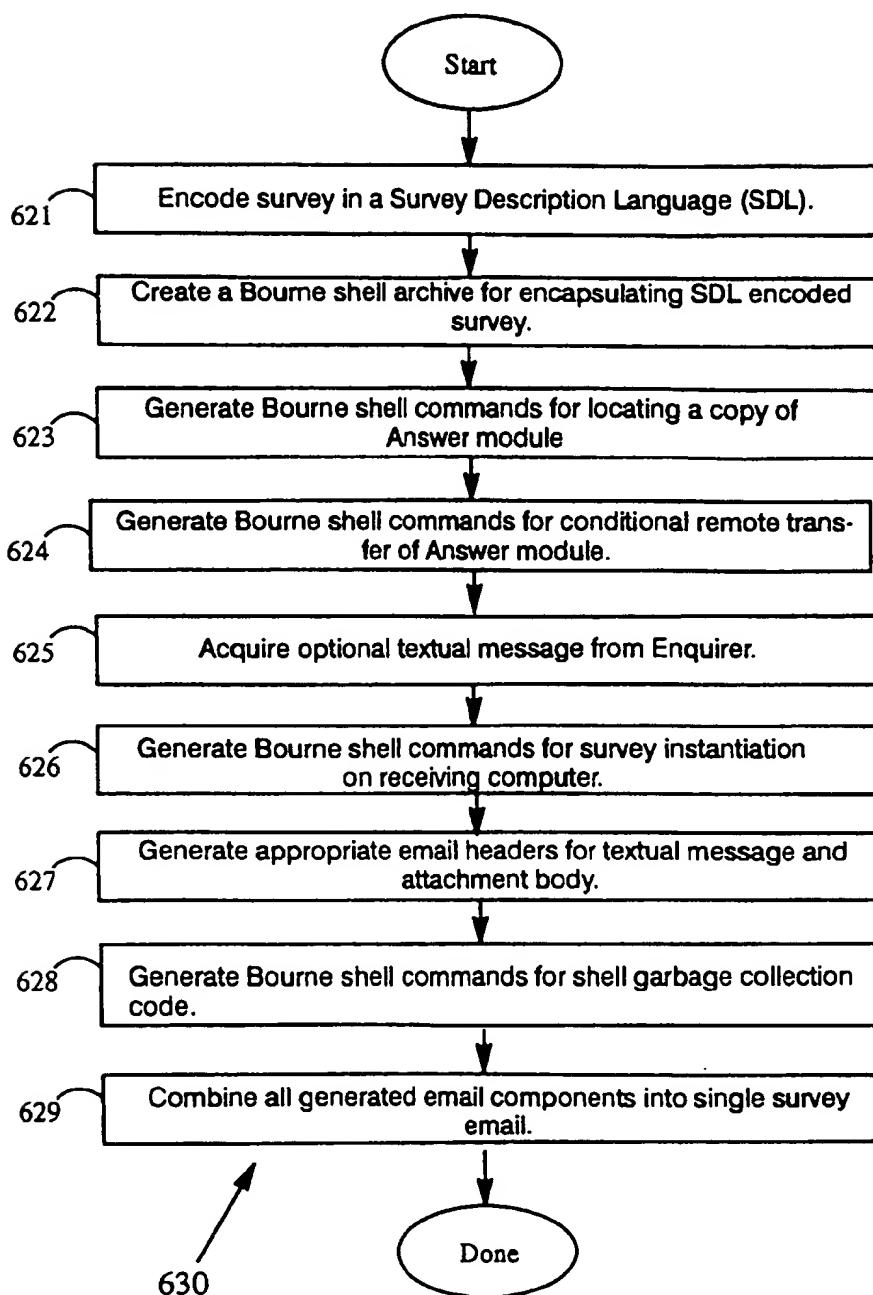


FIG. 6B

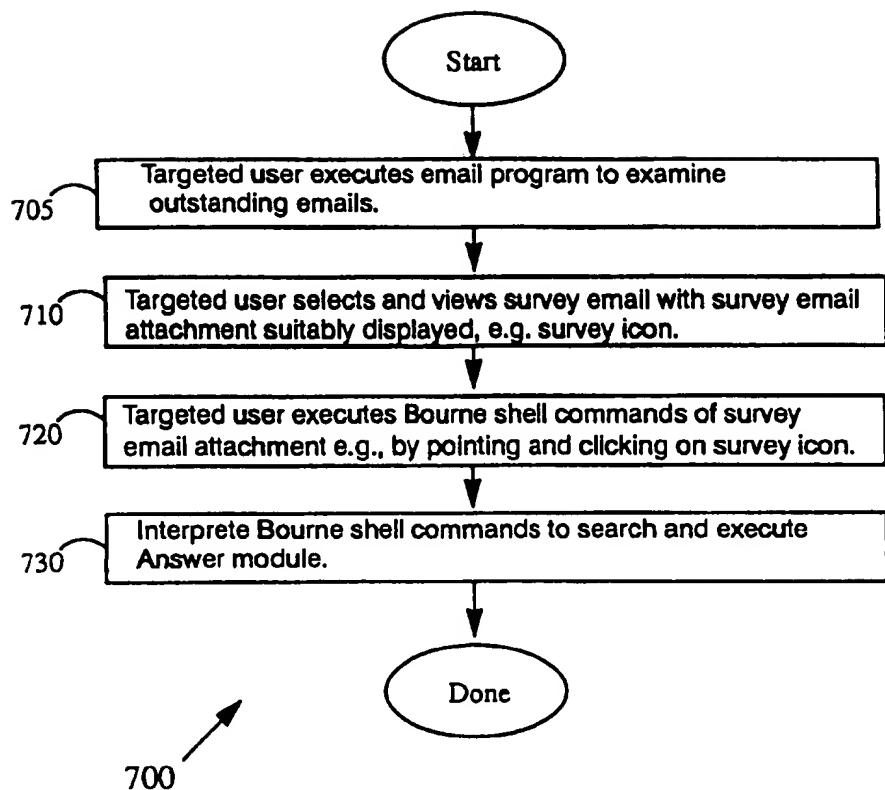


FIG. 7A

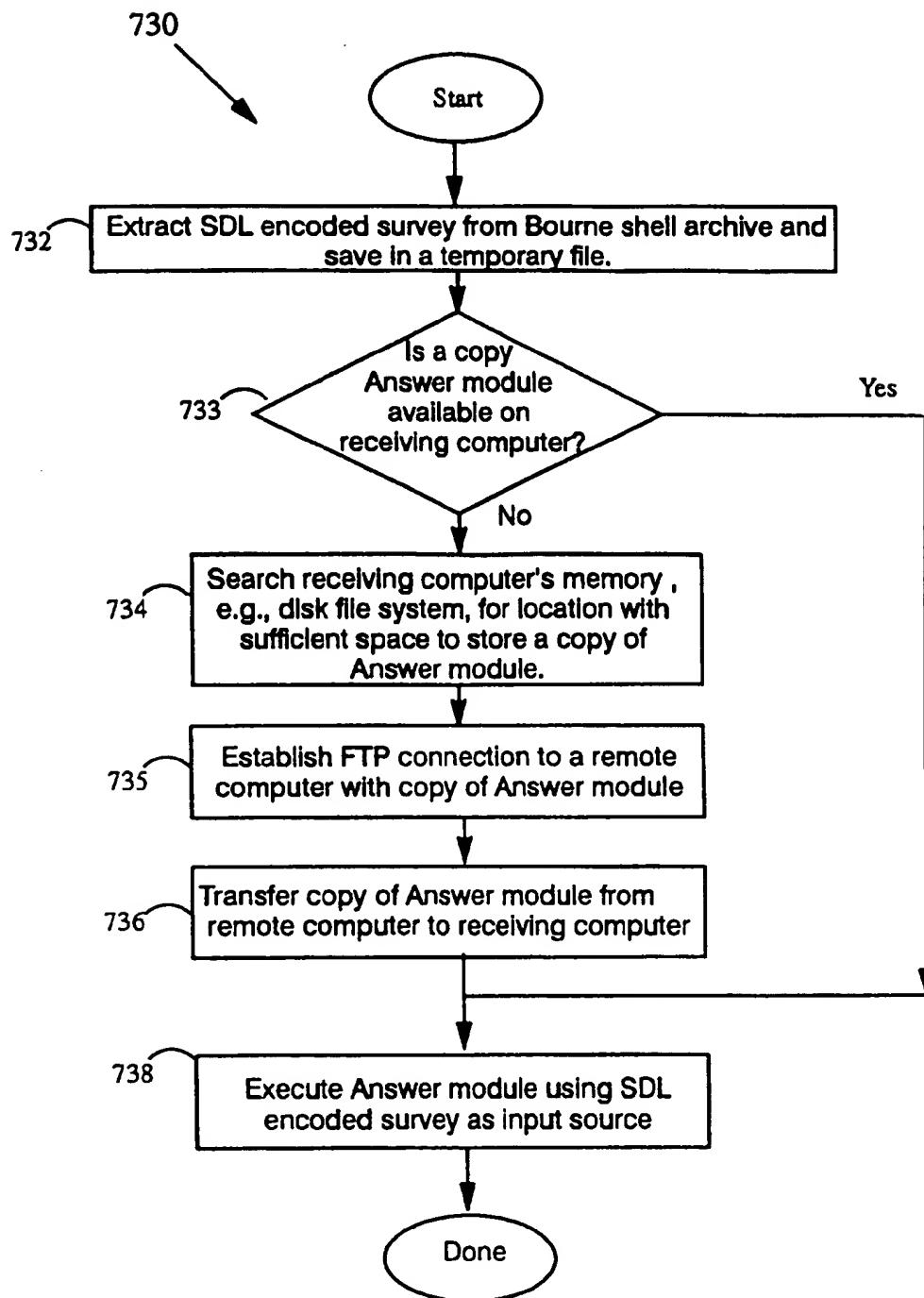


FIG. 7B

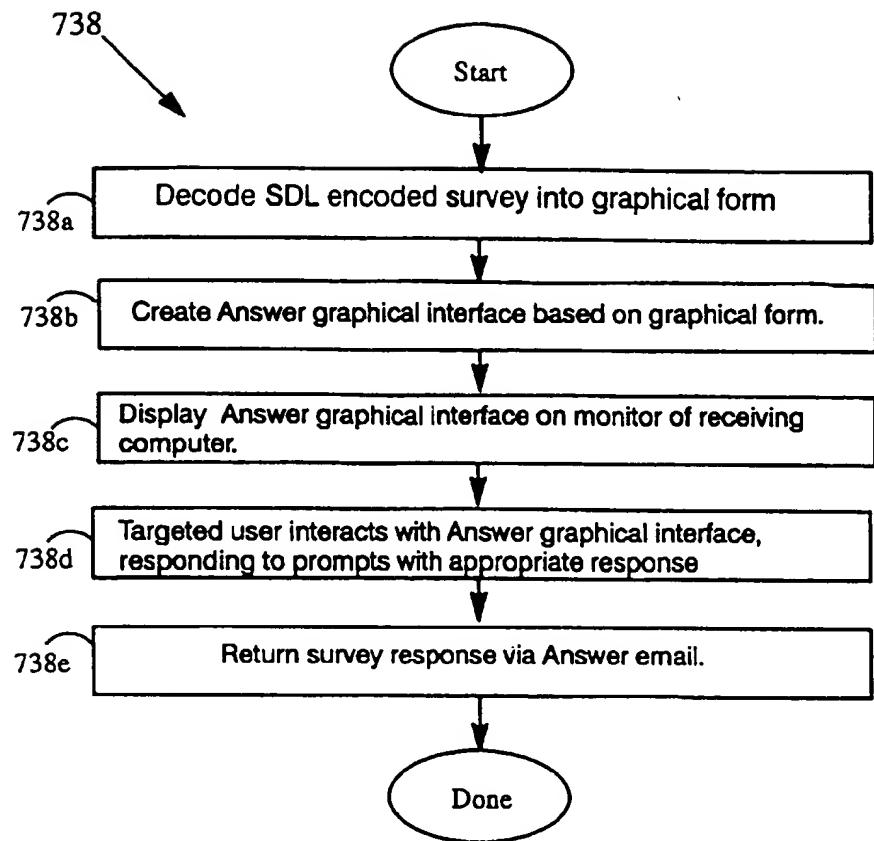


FIG. 7C

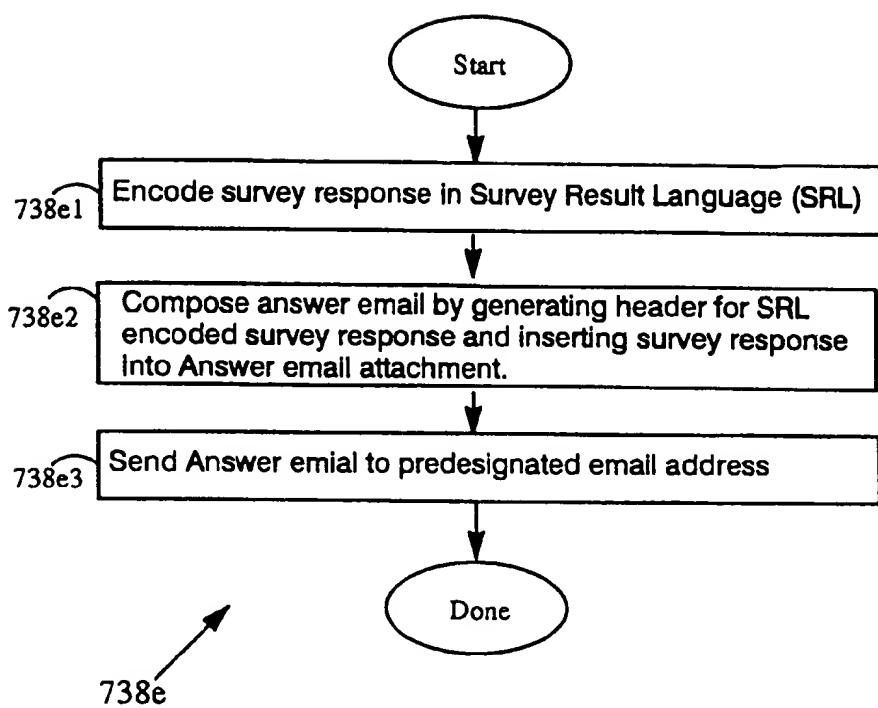


FIG. 7D

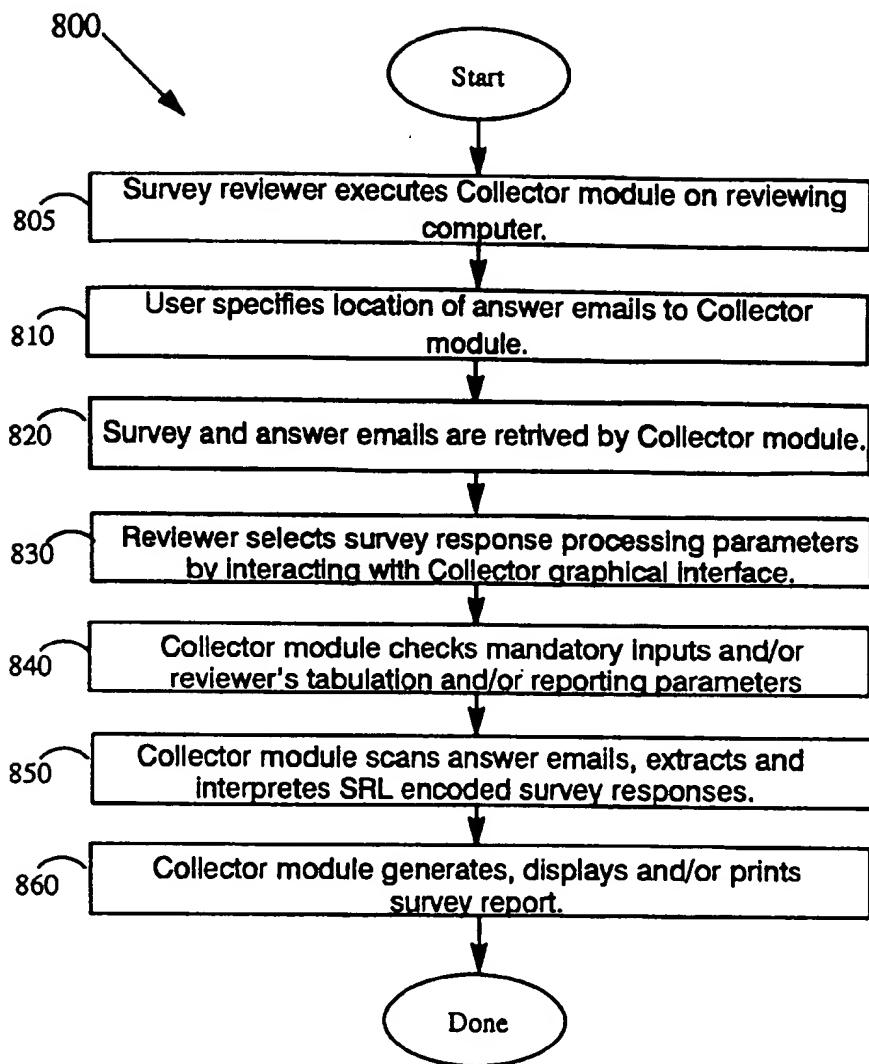


FIG. 8A

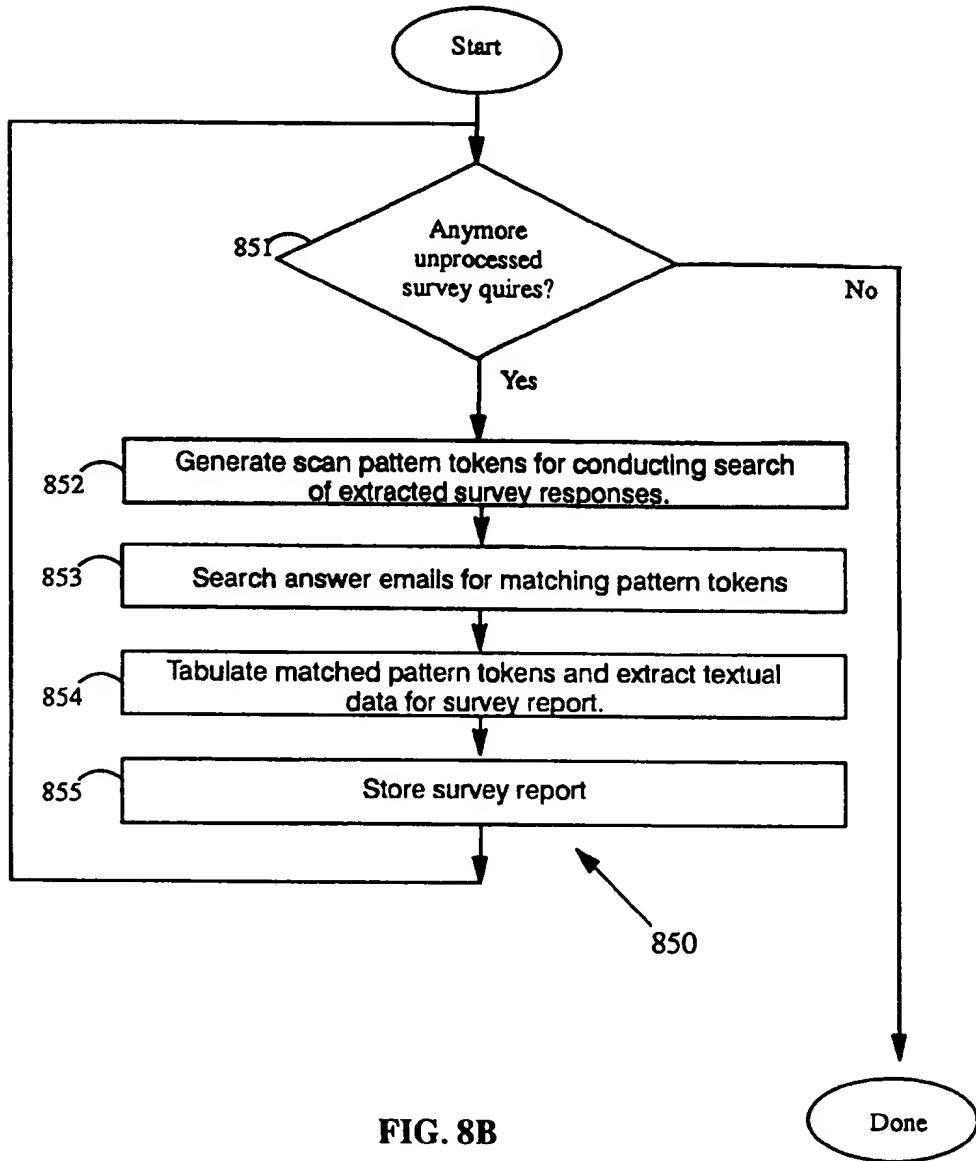


FIG. 8B